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HARVEY JACOB KRAHN

Date of Birth — Date de naissance
February 20, 1950

Country of Birth — Lieu de naissance
Canada

Permanent Address — Résidence fixe
10924 . University Avenue
Edmonton, Alberta.

Title of Thesis — Titre de la thèse
Labour Market Segmentation in Fort McMurray, Alberta.

University — Université
UNIVERSITY OF ALBERTA

Degree for which thesis was presented — Grade pour lequel cette thèse fut présentée
PH.D.

Year this degree conferred — Année d'obtention de ce grade
1983

Name of Supervisor — Nom du directeur de thèse
JOHN W. GARTRELL

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LABOUR MARKET SEGMENTATION IN FORT McMURRAY, ALBERTA

by

©

HARVEY J. KRAHN

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF SOCIOLOGY

EDMONTON, ALBERTA
FALL, 1983

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J W Gartrell
Supervisor

L Pratt

Charles Hobart
Patricia Marchak
External Examiner

Date Sept. 9, 1983

ABSTRACT

The community of Fort McMurray, Alberta has grown very rapidly in the past two decades as a result of the large-scale development of the Athabasca oil sands deposits. This study begins with a discussion of secondary sources showing the changing local industrial and occupational structures. Survey data, collected in 1979 from a random sample of 430 Fort McMurray residents, are then used to examine the experiences and rewards of work in the community, the attitudinal responses to participation in the local labour market, and the nature of the community's stratification system.

The study concludes that the development of this staple resource has provided improved employment opportunities, in terms of both income and occupational status, for a sizeable number of migrants to the community. However, not all groups have benefitted equally. Secondary sources show native Canadians to be only marginal participants in the local industrial economy. The survey data document a very pronounced pattern of gender-based inequality in the workplace. In addition, it is clear that oil company employment is much more rewarding, in monetary terms, than is employment elsewhere in the community. The survey data also reveal, compared to the rest of the country, somewhat lower levels of job satisfaction, possibly more wide-spread instrumental work values, and a distinct absence of working-class consciousness.

A labour market segmentation model is used to organize the study, and to suggest hypotheses and explanations of findings. The "dual economy" aspect of the model is useful for describing the evolution of the large, capital-intensive oil industry within the community. The "segmented" labour market component of the model helps explain the differences, between oil company employees and other local workers, in incomes, benefits, and occupational status improvements following migration. However, predicted differences across labour markets in work evaluations, job satisfaction and class attitudes were not found. The labour market segmentation model appears more useful for categorizing types of work and extrinsic work rewards, than for explaining differences in workers' attitudinal responses to work. Also, the segmentation model cannot adequately account for sexual inequalities in the workplace, since substantial male-female differences in work rewards remain after controlling on industrial sector of employment.

ACKNOWLEDGEMENTS

I would like to thank the members of my dissertation committee - Drs. C.W. Hobart, G.S. Lowe, L.R. Pratt, and T.H. White - for their many helpful comments about this study. Dr. J.W. Gartrell, my dissertation advisor, was an invaluable source of advice and constructive criticism. Dr. Patricia Marchak of the University of British Columbia served as the external examiner of the dissertation, and provided very useful comments and criticisms.

The survey data used in this study were collected in a study funded by the Alberta Oil Sands Environmental Research Program (Project HS30.5), a joint Alberta-Canada research program established to fund, direct and co-ordinate environmental research in the Athabasca Oil Sands area of Northeastern Alberta. Support for my doctoral training was provided by the Social Sciences and Humanities Research Council of Canada in the form of a doctoral fellowship, and by the Alberta Heritage Scholarship Fund through a Ralph Steinhauer Award of Distinction. Alberta Environment, Research Management Division, also provided a research grant to study labour market segmentation in Fort McMurray. The financial assistance of these various government agencies is gratefully acknowledged.

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I. Introduction

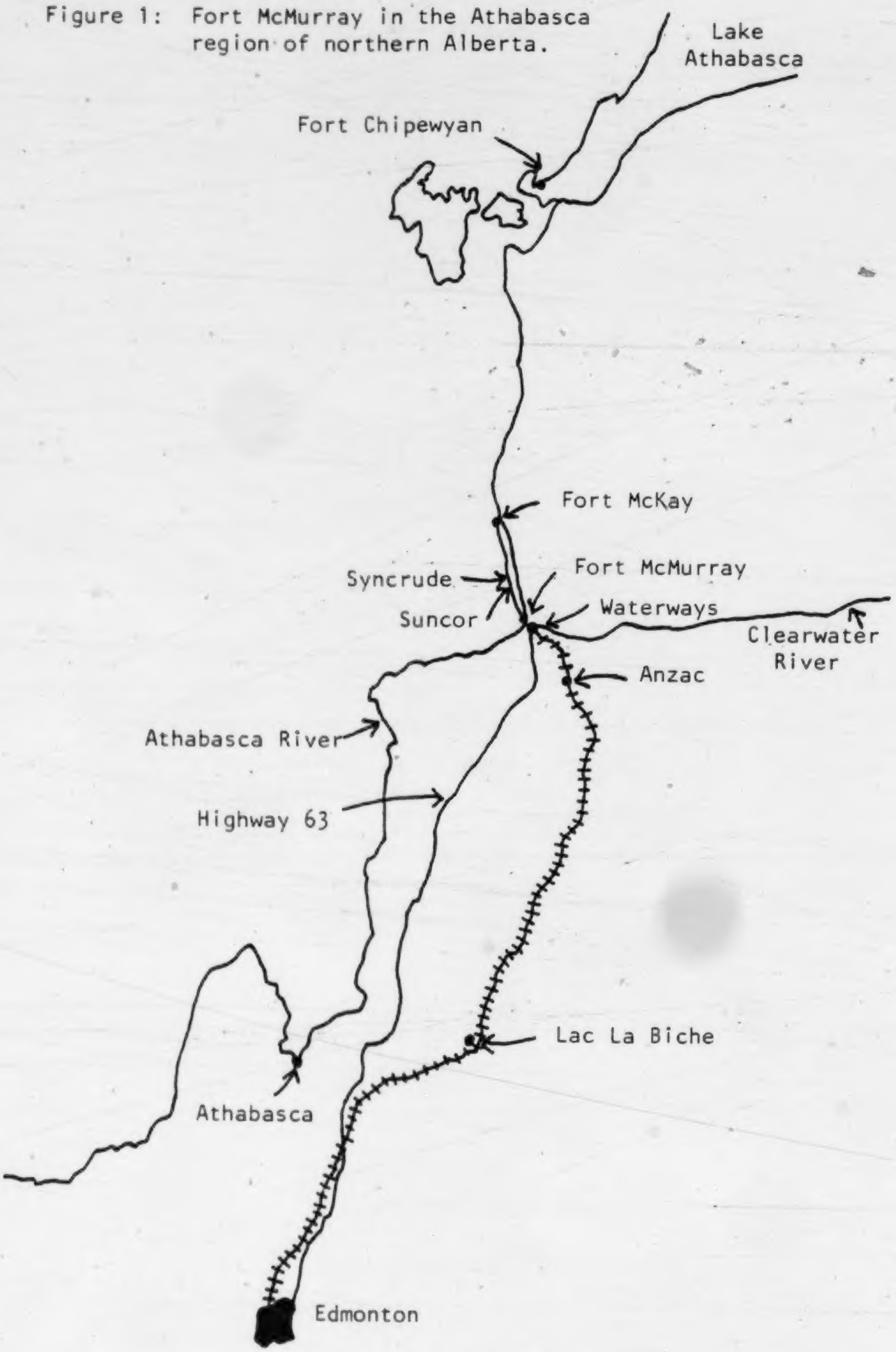
This is a study of the organization and rewards of work, and of the patterns of social stratification in a contemporary Canadian single industry community. It begins with an account of the changing industrial and occupational structures of this rapidly growing, northern Alberta resource town and addresses three broad questions. First, has the large-scale development of the Athabasca oil sands provided improved employment opportunities for migrants to Fort McMurray? Second, have these opportunities been equally distributed, or are there distinctive patterns within the community of stratification by gender, race, social class, occupation and industrial sector? Third, what are the attitudinal outcomes of participation in the local labour market, and are they influenced by any objective social divisions identified within the community?

The study is framed within a general discussion of the political economy of resource development in Canada. Its data analyses are guided by hypotheses derived from one of industrial sociology's newest paradigms – the labour market segmentation model. Several other relevant research literatures, including those on status attainment and job satisfaction, are also incorporated. Links to such diverse areas of research are necessary because this study is intended to be more than just another look at job satisfaction, status attainment, or labour market segmentation within the confines of a particular community. Instead, it is a community study focusing on work and stratification issues. In it I examine the patterns of social and economic change occurring in Fort McMurray, and the effects of these structural changes on the life chances and life styles of individual residents.

A. Fort McMurray: 1791 to 1983

Fort McMurray is located about 450 kilometres north of Edmonton. It is situated at a strategic transportation point where the Clearwater River runs into the Athabasca River which is flowing north (Figure 1). The first permanent settlement at this location was established almost 200 years ago, making this one of the oldest communities in Alberta. During much of its early history, the settlement was little more than a fur trading post. In the latter half of the nineteenth century the community took on a second economic function, becoming a river transportation centre linking regions further north with the more settled areas of what is today central Alberta.

Figure 1: Fort McMurray in the Athabasca region of northern Alberta.


Lake Athabasca
Fort Chipewyan
Fort McKay
Syncrude
Fort McMurray
Suncor
Waterways
Clearwater River
Anzac
Athabasca River
Highway 63
Lac La Biche
Athabasca
Edmonton

Until twenty years ago the population of Fort McMurray remained small. There were only 900 residents in 1951 and still only 1100 in 1961. The strength of the local economy varied with the fortunes of the regional trapping, timber, and transportation industries and the town was as well-known as any of the many other trading post settlements in the undeveloped Canadian north-west. But large-scale mining and processing of the oil sands in the region has dramatically altered the industrial base of the community. The town has grown rapidly to its present population of over 33,000. A paved highway and modern airport link the community to the rest of the province and beyond. Residents live in modern sub-divisions, and schools, hospitals, and public buildings are the equal of those in any major urban centre in the province. If one had grown up in Fort McMurray and had left in 1960, the town would be unrecognizable upon returning today.

The Athabasca Oil Sands deposits are the largest of several deposits of such sands in northern Alberta and Saskatchewan. The heavy oil, or bitumen, averaging about 11% of the weight of the oil sands, must be extracted and refined before it can be transported south by pipeline. In some places around Fort McMurray, natural outcroppings of the oil sand are found but, in most of the region, a layer of "overburden" up to several hundred feet thick covers the deposits. Only in the last two decades has large-scale commercial development of this resource become profitable, although attempts have been made since the beginning of the century.

Prior to that time, residents of the region knew about the oil sands but could make little use of them. Alexander Mackenzie, explorer and fur trader, visited the area in 1788 and noted in his journal that the Indians of the region mixed fluid bitumen with gum to create a substance suitable for waterproofing their canoes. He was not the first outsider to see the oil sands, however, since Peter Pond had come to this region a decade earlier and Henry Kelsey, governor of the Hudson Bay Company post at York Factory, had been brought a sample of the sands by a Cree Indian in 1719 (Comfort, 1974:110). Both considered it a curious but unimportant substance.[1]

---

[1] This brief history of Fort McMurray is drawn from a variety of sources, including popular histories of the region (MacGregor, 1974; Comfort, 1973, 1974, 1980) and government-funded historical research reports (Parker, 1980; Parker and Tingley, 1980). Only some of the specific details are further referenced below.

Fur, rather than oil, was the staple resource attracting outsiders during this pre-settlement era. The Hudson Bay Company had extended its interests west through the central prairies by the late 1600s but had not built posts in the Athabasca region. Instead, it relied on the Cree Indians as middle men to bring furs from the region to Churchill or York Factory. Quebec traders of the Northwest Company were more aggressive and moved into the Athabasca Area. Thus, the earliest mention of any settlement at the present site of Fort McMurray was of a house built by a North West company trader named McCleod at "Fort of the Forks" in 1791 (Comfort, 1973:79). By this time, Fort Chipewyan on the west side of Lake Athabasca had been operating as a North West trading post for three years and it, rather than the Fort of the Forks some distance further south, was to be the major fur trading centre in the Athabasca region for the next century. By 1806, the H.B.C. had abandoned trade in the region to the North West Company.

The amalgamation of the competing companies in 1821 passed control of the Fort of the Forks and Fort Chipewyan to the Hudson Bay Company. Fort of the Forks appears to have been abandoned around 1840, possibly because of a small-pox epidemic that killed many of the Indians in the region (Parker, 1980:8; Matthiasson, 1970:6). In 1870, Rupert's Land was transferred from the H.B.C. to the newly formed Dominion of Canada, and the powerful company lost its fur trading monopoly in the region. William McMurray, chief factor of the H.B.C. posts in the region, recognized that the company would now have to compete more actively with free traders from the south. He sent H.J. Moberly to construct a new trading post at the joining of the Clearwater and Athabasca Rivers. The construction in 1870 of this second post, named Fort McMurray after the chief factor, marks the real beginning of the community that exists today. Apparently the H.B.C. post was closed between 1898 and 1913 while fur trading activities shifted north to Fort McKay (Parker and Tingley, 1980:69), but the community itself survived.

A series of rapids in the Athabasca River south of the site of Fort McMurray prevented uninterrupted river traffic north to Lake Athabasca and beyond. Both the H.B.C. and Catholic missionaries had considered constructing a road from Lac La Biche to Fort McMurray, but the project appeared to be too costly and difficult (Parker and Tingley, 1980:15). Instead, in 1883 a road was built from Fort Edmonton to Athabasca Landing.

Transportation of goods now involved overland traffic to Athabasca Landing where they were transferred to flat-bottom scows constructed at the site. These scows could navigate the rapids separating Athabasca Landing and Fort McMurray, but were unnecessary beyond this point for, by 1883, a steamboat had been built at Fort Chipewyan which could transport goods north from Fort McMurray. Until 1921, this transportation system was an important source of employment for residents of the region who rode the scows north and dragged them south, and worked on the riverboats. In that year, the Alberta and Great Waterways Railway was built, linking Edmonton and the new community of Waterways, several miles south of Fort McMurray on the Clearwater River. Fort McMurray remained an important transportation centre but now it linked the end of the railway with riverboat traffic.

The new hamlet of Waterways was only one of the consequences of railway construction. A commerical fishery, which operated until the 1960s, was begun on Lake Athabasca, since the fish could now be transported south to markets. The decline of the scow traffic on the Athabasca led to the migration to Fort McMurray from Lac La Biche and Athabasca Landing of some of the Metis formerly employed in this transportation system. In addition, the railway opened up the area to migrants from further afield and to outside entrepreneurs. There is some evidence of a land boom in the town in 1912, fueled by the belief that oil would soon be processed from the oil sands (Hobart et al., 1979:23; Comfort, 1980:56; Parker, 1980:29). While several individuals succeeded in extracting oil from the sands (but not in successfully marketing it), one company excavated the oil sands as road paving material. A salt mine operated in Waterways from 1937 to 1951. A local sawmill also provided some employment, as did the variety of other businesses which were founded following World War I. While the community was not expanding rapidly it was growing and becoming a little less dependent on the fur trade and transportation industries. The town had about 200 residents in the early 1920s but the population had doubled by the late 1930s (Parker, 1980:31).

The 1912 speculations about oil drilling, construction of the railway, the building of the largest of the early oil sands plants (Abasands Oils Ltd.), and the opening of the salt mine each created a temporary boom in the local economy (Isbister, 1967:34). None had the effect, however, of the Canol (code name for Canadian Oil) Project begun in 1942

(Parker, 1980:32-5; Comfort, 1980:84-7), following the Japanese attack on Pearl Harbour. The Canadian and American governments were building the Alaska Highway for defence purposes, and a desperate need for fuel developed in the north. A pipeline was constructed from the oil fields at Norman Wells on the Mackenzie River to a refinery at Whitehorse. All of the men and materials had to be transported north, first by rail to Waterways, and then by barge on the Athabasca River. Hence, thousands of U.S. soldiers and tons of equipment descended unannounced on Waterways and Fort McMurray, and the local economy boomed. However, the post-boom slump was equally noteworthy as once again, trapping, transportation and (until 1951) the salt mine were the only sources of employment (Parker, 1980:35). The legacy of the Canol Project for Fort McMurray was a new airport, an improved railway, and a lot of leftover military buildings (Comfort, 1980:86). The pipeline itself was completed too late to be of much use in the war effort against the Japanese, and the four inch pipe was too small for any subsequent commercial operation.

Following the war and up to the early 1960s, Fort McMurray remained an isolated northern Canadian resource town. The hamlet became a village in 1947 and a town in 1948. In the early 1960s, interest in the oil sands revived. The Town Council anticipated problems with rapid growth and applied for "new town" status in 1962, allowing it to request provincial government funds for developing the town's infrastructure. In 1963, Great Canadian Oil Sands (G.C.O.S., now Suncor) began construction of a large oil sands extraction and processing plant on a lease site it had held since 1953. This activity fueled a construction boom that lasted until 1968. By 1971 the town's population had grown to almost 7000. Syncrude began construction of the second and larger plant in 1973 and finished in 1978, while construction in the town continued for some time after. The town's population reached 26,000 in 1979 and, in 1980 Fort McMurray became a city. The town's population continues to grow, although somewhat slower than during the construction periods. Municipal census results showed 33,576 residents on June 1 of 1982. If a third oil sands plant were to be built in the region, another construction boom would be inevitable. In 1982, the Alsands consortium cancelled its plans for a full-size plant. However, in July of 1983 Syncrude announced plans for a moderate-size expansion which will again provide a fairly large number of construction jobs.

B. Research Agendas and Research Literatures

In the last two decades, thousands of individuals and families have migrated to Fort McMurray to find employment in the expanding construction and oil extracting/processing industries. As the community became less isolated and more populated, it quickly acquired the reputation of a boom-town where migrants sacrificed quality of life in return for high incomes. The inter-related problems of rapid population growth, inadequate housing, and inadequate service provision which Fort McMurray encountered as it industrialized, have received much attention. These problems were substantial, but they have deflected attention away from other very important research areas.

The entry of new economic actors, the oil companies, into the community replaced the labour intensive local industries with a capital intensive, technologically more advanced industry. The scope of this industrial development was massive, however, and the extent of in-migration indicates that this single enterprise community provided many unique employment opportunities. The rapid transformation of the local economy may also have marginalized participants in industrial sectors dominant in earlier eras. Thus rapid growth and consequent problems were both products of industrial development and the sudden creation of a buoyant local labour market. These antecedent changes have not been examined in a systematic and detailed manner. Similarly, the employment opportunities created for migrants, and the manner in which people perceive their new work environments have not been studied in any depth.

This study seeks to fill these gaps. I start with a discussion of changing industrial and occupational structures, and of the growing local influence of external corporate and state actors in this staples-producing community. This shorter discussion of the political economy of resource development sets the stage for the more detailed analyses of local labour markets. I begin by examining occupational mobility, or lack thereof, accompanying geographic mobility. I then go on to consider the incomes and fringe benefits received by local workers. Finally, work attitudes, job satisfaction, class consciousness and union attitudes are analyzed and discussed. With all of these topics, I proceed by looking first for differences between this community and others, and then for differences among particular groups within the community.

A very general causal model which proposes that industrial growth and development produces jobs which, in turn, influence work-related and class attitudes of workers, underlies this study. However, this cannot substitute for the hypotheses and insights provided by a theoretical model. But research questions as broad as these require an equally broad theoretical framework. Several research literatures are helpful, but not sufficient for this purpose. They are introduced here but will be examined more fully in subsequent chapters.

A number of studies have focused on the quality of life in Fort McMurray during its periods of rapid growth (e.g. Van Dyke and Loberg, 1978; Larson, 1979; Gartrell et al., 1980a). These studies are part of an expanding literature on rapidly growing resource development communities in both Canada and the U.S.A (Finsterbusch, 1980; Summers and Selvik, 1982). This body of research contains some useful information and insights on work-related issues. However, the detailed attention paid to the adjustment problems of individuals and families is often atheoretical, and usually at the expense of a larger structural analysis. Work itself is often a secondary concern in these studies. Whereas sociologists and social workers have been the main contributors to this research genre, economists have been adding to a companion resource town literature. Capital outlays, employment multiplier effects, shifting wage patterns, costs to local taxpayers, and problems of local businessmen competing for scarce labour are typical topics. Such studies have come from analysts of resource development in Canada (Nichols and Associates Ltd., 1979, 1981), the U.S.A. (Murdock and Leistritz, 1979; Leistritz et al., 1982), Scotland (Mackay and Moir, 1980; Moore, 1981), and Norway (Selvik, 1981; Stenstadvold, 1982). While these subjects are related to my research questions, practical economic impact studies seldom place local economic growth into a dynamic model of social and economic change. Nor do they, typically, pursue some of the stratification issues (e.g. occupational mobility, income distributions), organizational topics (e.g. the organization of work within firms), or attitudinal variables (e.g. job satisfaction) which interest sociologists.

Both of these literatures are products of the recent demand for socio-economic assessments of the impact of large resource development projects. An older but equally relevant body of work is the Canadian single industry community literature (e.g. Robinson, 1962; Lucas, 1971; Riffel, 1975; Bowles, 1982). These studies are also largely atheoretical but they do provide useful comparative information, although often quite dated. Some are set within a broader assessment of Canada's regional pattern of resource development but, again, often in an earlier era. Most of these studies have not closely examined the structure and consequences of work, choosing instead to look at the social organization of other areas of life.

These several information sources are clearly relevant to this research agenda, but are not themselves theoretical frameworks. A larger model which can incorporate the variety of research at both the structural and individual levels is required. Such a model appears to be taking shape within the rapidly growing labour market segmentation literature (e.g. Bluestone et al., 1973; Edwards et al., 1975; Gordon et al., 1982). This perspective on social and economic change, at both industrial and individual levels of analysis, has evolved from several complementary research traditions. As a critical response to the dominant economic models of the operation of labour markets, it is being incorporated into sociological analyses of work, complex organizations, and stratification in contemporary capitalist society.

Fort McMurray, like most single industry communities, is distinctly split into sub-populations of those who work for the oil companies and those who do not. This very apparent segmentation of the local labour market, paralleled by a similarly organized housing market, immediately suggests the dual (or segmented) labour market model as a useful organizing framework for this community study. The various work and stratification-related topics which labour market segmentation researchers have studied are among those which await examination in the Fort McMurray context. Hence, this literature is also a source for hypotheses, insights, and explanations of findings.

The labour market segmentation perspective is a preferred perspective from which to undertake this research, but it too is underdeveloped in some respects. The potentially cross-cutting divisions of gender, race, social class and industry of employment have not been adequately discussed or analyzed. There has been a reasonable amount of research at the industry level of analysis, but considerably less at the level of the firm or of individuals within firms. Some of the conclusions about micro processes are deduced from structural analyses rather than derived from research findings. Also, the subjective outcomes of work in a segmented labour market, while often commented upon in this literature, have received very little serious study. Despite these weaknesses, the labour market segmentation model can orient this research. At the same time, this resource town provides a useful setting within which to test some segmentation propositions which have, as yet, received little empirical support. It is important to re-emphasize, however, that this research is essentially a community study. The segmentation model may suggest hypotheses and provide explanations, and may also be extended further in this study. But the research begins with the realities of a community, not with the abstractions of a theoretical framework. The identifying characteristics of a community like Fort McMurray appear to be that corporations come to seek profits, governments are attracted by royalties, and individuals migrate to obtain profitable employment. These interacting processes provide the setting for a wide-ranging study of work and stratification in a resource extraction community.

Community studies are less fashionable today than they once were. Newby (1980:79, 1982:3-6) discusses some of the reasons for their decline. These include the general absence in earlier community studies of much sociological theorizing beyond commitment to a rural-urban continuum and to the proposition of a "decline of community" before the onslaught of mass culture. In addition, definitional confusion around the concept "community", and a tendency to romanticize the rural past have led contemporary sociologists to ignore the community as a research setting. However, Newby correctly identifies the potential strength of community studies when he writes that there has been "a notable movement away from exploring communities as objects of study in their own right towards using a community study as a methodology to study broader social processes" (1980:79). Thus, communities might be considered microcosms of larger society. They can provide social scientists with an opportunity to examine, at close range, processes of social and economic change. A study of community social structure and the experiences of resident individuals moves beyond parochialism when it demonstrates the local effects of societal-level processes. Hence, a community study of a Canadian resource town can be both a detailed examination of life-styles and life-chances of residents, and a microcosmic analysis of some larger societal changes (Bradbury, 1978:4). In fact, some of these processes of social change may be compacted within a shorter time-span in rapidly growing resource towns.[1]

C. Summary and Chapter Outline

Previous social science research in Fort McMurray has focused largely on social problems, inadequate service and housing provision, and individual adjustment to life in a rapid-growth community. This study begins by stating the obvious: corporations and governments have begun to develop the Athabasca oil sands because it is profitable to do so, and individuals have migrated because of the resulting employment opportunities. The many further research questions suggested by this simple observation might be organized under the following themes:

1. the political economy of resource development in Canada;
2. industrial structure and mode of production changes within the community and region;
3. employment opportunities offered to migrants to the community;
4. sectoral, gender, racial, social class, and other divisions within the community; and
5. the financial rewards and psychological outcomes of working in the community.

In the following chapters, some of these themes (and sub-sets of research questions and specific hypotheses) are examined at length; others will be discussed in order to provide a context for the more detailed analysis of survey data.

These general themes are linked together by a labour market segmentation model of industrial change and individual labour market participation. Several less theoretically grounded research literatures are incorporated because they contain relevant and necessary information on rapid growth, single enterprise, and resource extraction communities. The segmentation model provides a way of successfully integrating these bodies of research. It also provides a variety of testable hypotheses and relevant insights. Alternatively, the single industry community context allows the refinement and testing of hypotheses drawn from the segmentation literature.

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[1] Luxton (1980:24) provides this rationale for her choice of Flin Flon as a setting in which to study the evolution of domestic labour in capitalist society. "Domestic labour in North America has undergone continuous change since the early nineteenth century, but much of the early part of this process is lost to us. In Flin Flon the evolution of domestic labour has been telescoped into a period of fifty years."

Chapter two is a review of the Canadian single industry community literature. It provides a general context within which to evaluate the more specific local information presented in the following chapter where Fort McMurray's recent rapid growth and development are discussed. In chapter four, the labour market segmentation literature is introduced and an attempt is made to extend the model into some new areas. General propositions at both industrial and individual levels are extracted from the literature. Finally, the dialectic between the model and the community in which this research is grounded is discussed. The segmentation model appears very relevant to an understanding of Fort McMurray in particular, and Canadian single industry communities in general. At the same time, a community setting such as this is very useful for testing and further extending the segmentation model, in this case with 1979 survey data from Fort McMurray. These data were collected in a government-funded "quality of life" study in which I participated. The general findings are discussed in Gartrell et al. (1980). With the exception of portions of the occupational mobility results which are presented in Krahn and Gartrell (1981, 1983), most of the work and stratification data have not been previously analyzed in as much depth or from the segmentation perspective.

Chapter five begins with a discussion of more detailed hypotheses and concludes with an initial look at these survey data. The sixth chapter is an examination of occupational mobility accompanying and following migration. The occupational mobility literature is reviewed briefly to allow linking of resource town issues, segmentation concerns, and these specific substantive research topics. The nature of Fort McMurray's dual labour markets are described in chapter seven with special emphasis on income differences and fringe benefits. Again, an existent body of research on income attainment is also reviewed. The attitudinal outcomes of the structural changes and social processes examined in the earlier chapters are the central subjects in chapter eight. Job satisfaction and work attitudes are studied from a perspective derived from the immense research literature in this area but modified to extend the labour market segmentation model. A shorter analysis of class consciousness is also included. Finally, the tenth chapter summarizes the findings, discusses some contributions the study makes to several substantive areas of research, and suggests topics for further research.

II. Single Industry Communities in Canada

A. Introduction

The export of natural resources in an unprocessed form has been central to Canada's economic development ever since the colonization of New France. If the definitive economic history were to be written, some of the many volumes might be titled Fish, Furs, Timber, Wheat, Uranium, Potash, Coal, and Oil. This emphasis on export of staple goods to first European and, later, American and Japanese centres of larger population and greater industrial diversity has left its mark on Canada. The work of Harold Innis and his successors which documents these economic and social effects has been labelled the "staples theory of economic development" (Innis, 1967; Watkins, 1967, 1977a, 1977b). It has been argued that commitment to mainly extraction of a single or few resources makes a nation or region vulnerable in world markets. Without a parallel investment in secondary industries, distortions in occupational and industrial structures develop. The few forward and demand linkages created in a staples-based economy, and dependence on a limited number of markets eventually leave a nation or region few development alternatives other than continuing to operate within the "staples trap".

Some critics have replied that a staples-based strategy of economic development can, but need not, lead to dependence and underdevelopment (Richards and Pratt, 1979). Others have argued that explanations of economic development which focus only on this one factor are too simplistic (Gertler and Crowley, 1979:108). In addition, the issue of whether the staples-extraction industry is owned by residents of the region or nation should also be considered in assessments of economic development strategies. Whatever the criticisms of the staples theory, of economic development, it is difficult to ignore the importance of this form of development in Canada's economic history. It is equally difficult to overlook the effect which staple-based development has had on the regional development and urbanization of Canada. New hinterlands in the west and north of the country were opened up as markets were found for new staple goods. The older settled areas of the country, originally colony hinterlands themselves, acquired intermediate status as heartlands within the Canadian economy. The different types of urban sub-systems found across the country are also partial products of different patterns of staple-based development (Gertler and Crowley, 1979:107; Stelter and Artibise, 1978:15). One example is the wide-spread pattern of small towns acting as service centres in the wheat-based prairie economy. A second is the pattern of isolated single industry communities spread across the north-central part of the country. These communities are situated in regions which are often fairly isolated, and sometimes rather inhospitable. They exist only because the extraction and export of timber and mineral resources require a resident labour force (Lucas, 1971; Bowles, 1982:5).

The most extensive examination of Canadian single-industry communities is found in Lucas' (1971) Minetown, Milltown, Railtown. Other general sources of information are Himelfarb's (1977) summary of Lucas' work, Robinson's (1962) examination of four Canadian resource towns, Riffel's (1975) brief commentary on the quality of life in such towns, Bowles' (1982) collection of previously published papers, and the very early Queen's University (1953) study of housing and urban planning in single-industry communities. Of these, Lucas' work contains the largest amount of information on work and work-related topics, although this material is not tied together with an encompassing theory at either the community or individual level. These major studies, along with a very large number of smaller more focused studies provide the source material for the following discussion of Canadian single-industry communities. [3]

In this discussion, an attempt is made to extract information specifically relevant to this study, and to identify information gaps. Thus, this chapter is presented as a contextual background against which we can assess the more specific Fort McMurray findings presented later. The single industry community literature review is followed by a brief introduction to some of the recent social impact assessment research undertaken in energy resource towns. The chapter concludes with a critical analysis of the contributions this research literature can make to a study of work and stratification in one of Canada's larger resource towns.

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[3] The University of Manitoba's Center for Settlement Studies (1969-70) published a three-volume bibliography of references to "resource frontier communities". Knight's (1975) "work camp and company town" bibliography and Pressman's (1976:349-63) and Bowles (1979:141-75) shorter bibliographies on new towns and social impact assessment, respectively, are other useful guides to this general literature. Articles of the Canadians Geographical Journal variety such as "Cobalt - the town with a silver lining." (Brown, 1963), "Thompson, Manitoba - suburbia in the bush." (Harrington, 1970), and "Fort McMurray - new town in the tar sands." (Isbister, 1967) constitute a substantial part of this literature but are generally little more than journalistic descriptions.

B. Characteristics of Canadian Resource Towns

Demographic Base and Stages of Development

The dominance of a single industry within the local economy, and the resource-extractive nature of this industry, are the two essential defining characteristics of Canadian communities such as Noranda, Quebec, Elliot Lake, Ontario, Thompson, Manitoba, Uranium City, Saskatchewn, Fort McMurray, Alberta, Kitimat, B.C., and Pine Point, N.W.T. The actual number of such communities in Canada would vary depending on how strictly one defined "dominance", but several early studies identified approximately 160 (Queen's University, 1953; Robinson, 1962; Marsh, 1970).[4] New communities have been built since then, so a maximum of 200 might be a reasonable estimate.

There is general agreement among researchers about the stages of development of Canadian resource towns (Lucas, 1971; Riffel, 1975; Himelfarb, 1977; Stelter and Artibise, 1978; Gertler and Crowley, 1979). Riffel's (1975:12-13) typology (reproduced in Gertler and Crowley, 1979:255) is probably the most succinct presentation. He describes how in the pre-discovery stage the small indigenous population is active in pre-industrial economic activities (e.g. hunting and fishing) in relative isolation from white industrial society. The discovery and exploration stage brings some mixing between the two cultures and modes of production, as seasonal work is undertaken by outsiders (primarily male) living in makeshift settlements. With a commitment by the interested corporation to begin resource extraction, construction of the mine or mill begins along with construction of the town needed to house the labour force. As developers and entrepreneurs become active, and as hundreds or thousands of young male construction workers move in, the boisterous and highly unsettled construction boom takes over the local economy. Turnover rates are high, provision of services to residents is difficult, and social problems among both original residents and recent migrants are severe. There may be some employment of native Canadians during this era, since labour demands are high, but this typically falls off during the transition from the construction phase to the operations phase of the new dominant industry.

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[4] Lucas (1971:17) included single industry towns without resource extraction economies (e.g. railway and manufacturing towns) and identified a total of 636 with a combined population of almost one million residents.

During this time, the labour force comes to contain more skilled and less transient (but still fairly young) workers. The original residents of the area usually become a marginal minority. Families rather than single individuals are more likely to be attracted to the community and housing, social services, and urban amenities begin to approach an acceptable level. Riffel concludes by describing how labour turnover, racial tensions, social stratification and various social problems abate somewhat as the community diversifies economically, socially, and demographically (age and sex distributions normalize). With time, a sense of community and belonging develops among residents, and the mature single industry town comes to resemble more closely other Canadian urban centres.

Lucas (1971) similarly described four stages of development - construction, recruitment of citizens, transition, and maturity - but ignored the pre-discovery and early exploration stages. His more detailed analysis identifies some of the less positive characteristics of the mature stage of development: the limited occupational opportunities for children of workers, environmental pollution, and the constant uncertainty about the future of the community. The natural resource supply, the original reason for the town's existence, may be depleted or world market conditions may make continued production unprofitable. Although Lucas does not frame this discussion within a "staples trap" explanation, he clearly is aware of the vulnerability of single industry communities. Himelfarb (1977) summarizes Lucas' stages of development but adds a fifth stage - decline - to complete the typology. [5]

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[5] The "boom and bust" phenomenon was particularly evident some decades ago, as scores of gold and coal mining towns in western Canada grew rapidly and then became ghost towns. Watkins (1977a:90) suggests that ghost towns are the symbols of Canada's staple-based resource development policies. Some larger mining communities like Elliot Lake (Robinson, 1962:95-101; Clement, 1981:42) and Cobalt, Ontario (Brown, 1963) have survived market collapses for their staple products (uranium in Elliot Lake and silver in Cobalt) and begun to grow again. Many have not. Knight (1975:3) notes that nine of the thirty B.C. single enterprise communities identified by Robinson (1962) had closed down by 1972. Mine shut-downs in 1982 in Uranium City, Saskatchewan and Schefferville, Quebec provide the most recent large examples of the ultimate problem facing single industry resource towns. The Schefferville example is particularly interesting. This community was one of four examined in detail by Robinson (1962) who concluded that because of its additional economic function as a regional service centre, Schefferville had a good chance of surviving any collapses in market demand for iron ore.

Various writers have described the variety of ways in which Canada's resource extraction communities have changed over the last century (Robinson, 1962; Lucas, 1971; Knight, 1975; Himelfarb, 1977; Pressman and Lauder, 1978; Stelter and Artibise, 1978; Bradbury, 1980). The very early bunkhouse settlements (Bradwin, 1972) were displaced by "company towns" which, in turn, have given way to more open communities.[6] This transition has included a number of more specific changes. Governments have become more involved in the planning, funding, and regulation of new resource towns while resource extraction corporations have generally relinquished some of their control, along with some of the infrastructure costs. The ownership of these companies has also shifted further away as very large, often multi-national firms have come to dominate the Canadian oil, mining and timber industries. Clement's (1981) analysis of the Canadian mining industry documents this trend in that industry. Capital intensive and higher technology industries are prominent in the newer resource towns compared to those settled some generations earlier. The necessity to continually look further afield for sufficiently large and profitable ore bodies, oil and gas fields, or timber resources has also meant that newer communities tend to be somewhat more physically isolated.

Increased state intervention has typically led to better planned and equipped communities (McCann, 1978:47), although some early company towns were models of urban planning despite the paternalistic manner in which they were managed (Stelter and Artibise, 1978:10). The replacement of direct control by corporations with relatively direct control by the state has not always provided a higher degree of local autonomy (Wichern, 1972:142; Pratt, 1976:113). It has, however, meant that residents of resource towns now include more people not directly employed by the dominant local firm (e.g. government employees, and those working for various independent businesses). In addition, the increased capital investments in mines and plants, and the greater direct involvement of the state have generally led to longer-term planning for new towns. Thus, the typical time-span covered by the movement of such communities through their several stages of development may have increased. And, because of the demand for more highly trained workers in the newest generation of Canadian resource towns, the demographic composition of such communities at various points in their transition may be more "normal".

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[6] As with all generalizations, there are exceptions. Cobalt, Ontario grew extremely rapidly following the discovery of silver in 1903. This growth was totally unplanned since, unlike many other mining towns of the era, there were several dozen companies operating in the same area. None were large enough or concerned enough to become involved in planning a community (Baldwin, 1978).

Population Migration

Unskilled migrants from around the world helped build Canada's early canals and railways (Teeple, 1972; Pentland, 1981; Bleasdale, 1981), and were a primary source of labour for the earliest staple producing industries operating in this country (Bradwin, 1972; McCormack, 1977; Avery, 1979). As single industry mining and timber communities developed in the hinterlands of the country, labour stocks began to include internal migrants as well as those coming from outside of the country (Derbyshire, 1960; Robinson, 1962:83). Single industry towns in Quebec and Ontario could draw from pools of unemployed or underemployed labour in (relatively) near-by urban centres or adjacent rural regions (Clark, 1971; Stelter and Artibise, 1978). More isolated western Canadian centres had to attract workers from further away (Marchak, 1981:106). For residents of all types of resource towns, migration was an avenue to employment.

This pattern of migration has continued into contemporary times. The Canadian economy today is characterized by distinct regional disparities in growth and development which produce different employment rates and levels of income (Phillips, 1978; Clement, 1980). Such differences result in migration of younger, relatively well educated workers to the areas of the country where there are more employment opportunities (Grant and Vandercamp, 1976; Cuneo, 1978). In the 1960s, this meant that Ontario and British Columbia experienced net in-migration (Economic Council of Canada, 1982:70). Maritimers "going down the road" to Toronto or westerners going east to heavy manufacturing cities like Hamilton or Windsor became recognizable Canadian stereotypes.

In the 1970s, the major recipients of migrants were the provinces of Alberta and British Columbia with their expanding staple producing industries. Thus, the underdeveloped regions have been providing a pool of workers, supplemented by inter-national migration, for both the more developed central regions and for resource extraction communities in the west (Veltmeyer, 1978:98). Alternatively, "[f]or recent immigrants or for migrants from other parts of Canada, especially from rural Quebec and more recently from the Maritimes, such towns have provided opportunities" (Forcese, 1980:30). The few studies that provide some data on the geographic origins of residents of contemporary resource towns demonstrate the degree to which such communities do attract migrants from distant regions of the country. Wichern et al. (1971:61) examined 1969 survey results from Flin Flon and Thompson, Manitoba. In both mining towns, about one half of the sample had lived in Manitoba prior to migrating. The prairie provinces, Ontario, and Quebec had provided most of the remaining workers for these communities. Carcajou Research Ltd. (1980:25) present a list of the geographic origins of 217 (probably young, male and unskilled) migrants who had stayed in a Salvation Army Hostel in Grand Prairie, Alberta in 1980. Only 42% said they came from Alberta.

Quite clearly, the prospects of better jobs and higher incomes (or any jobs for the migrating unemployed) remain the attractions for migrants to single industry resource towns (Marsh, 1970:17; Jackson and Poushinsky, 1971; Riffel, 1975:31; Larson, 1979:54). In Lucas' (1971) inventory of types of construction workers in single industry towns, we find the "get rich quick" worker who wishes to make a lot of money in a short time and then move out. Bradbury (1980) calls the same group "alienated workers". Lucas (1971:47) reports that many residents believe the quest for quick money lures new recruits. Porteous (1976) notes that residents of resource towns believe that migrants come to get rich quick or because they could not get a job elsewhere. However, there has been very little research which carefully documents such migration motives, [7] and which examines the outcomes of migration. Do migrants actually benefit from their move, what forms do such benefits take, and are they equally distributed across population sub-groups? Are monetarily-motivated migrants satisfied with the jobs and incomes they obtain in these communities and, finally, do such instrumental orientations to work inhibit the development of class consciousness in the community?

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[7] Porteous (1976) noted the search for a new way of life as a migration motive, and Robinson (1962:80) suggests that some people are attracted by the reputed fewer normative constraints in frontier towns. Jackson and Poushinsky (1971:iv) argue, alternatively, that there is no evidence that northerners are more restless or more alienated.

Labour Turnover

It is generally agreed that population turnover rates are unusually high in Canadian resource towns. Riffel (1975) suggests that physical isolation and severe climatic conditions, poor housing, and community and social service deficiencies, together with few employment opportunities for women are among the more important factors related to high levels of population turnover. He concludes that "probably the most important reason leading an individual worker to leave a resource town is because his family is not happy with life in the town." (1975:61). Riffel's negative assessment of the quality of life in such towns is not unusual. Siemans (1976:277) concludes that "the majority of reports on the environmental, physical, social, and psychological conditions in isolated northern resource communities have rendered verdicts ranging from unattractive to deplorable."

Since life in resource towns is generally most chaotic during construction booms, it is not surprising that turnover rates are often highest during this stage of the community's development (Lucas, 1971; Larson, 1979:64).[8] But the "disrupted community" thesis is not the only explanation congruent with this observation. Part of the explanation of the high turnover rates experienced as building booms end is that construction skills are seldom easily transferred to jobs in mine or plant operations. There may also be a demographic explanation, since construction workforces have traditionally had an over-representation of young, single , transient male workers (Bradbury, 1980). In mining towns, single workers have turnover rates three times as high as the rates for married workers (MacMillan et al., 1977:81; Clement, 1981:339). The proportion of such workers in the total local labour force would decline as construction slows down but, to the extent that the resource town in question retains its reputation as a "get rich quick" community, selective migration may be partially responsible for continued high rates of population turnover.

It remains possible that working conditions in resource industries, rather than living conditions in the host communities (or selective migration) are major explanatory factors. Research in other settings has shown that less satisfied workers are more likely to leave their jobs (Porter and Steers, 1973; Price, 1977; Knowles, 1976). Riffel mentions poor working conditions and fewer opportunities for career advancement in his list of contributory causes of turnover in resource towns. Bradbury (1980) tends to emphasize working conditions and management styles, rather than community dissatisfaction, as causal factors. Cram (1972) notes little fulfilment of higher-order needs such as esteem, autonomy, and self-actualization in his study of workers in sub-Arctic mining camps, and suggests that this may be a cause of high rates of turnover. The Economic Council of Canada (1976:178) reports the results of a survey of *employers* which included questions about *employees'* reasons for quitting. In the mining industry, a higher than average percentage of responses focused on working conditions and slow advancement, while a lower than average percentage identified better pay or better jobs elsewhere.

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[8] Neil (1982) reports a similar situation in new iron ore mining towns in Australia. There, annual turnover rates dropped from around 150% to about one tenth that level as the mines moved into production.

Thus, there are a number of equally plausible explanations for high turnover rates in resource towns. Furthermore, the few available inter-industry comparisons fail to find a systematically high level of turnover in all resource extraction industries (Gray, 1975). Hence, until more powerful research designs are introduced to this area of research, it is probably best to accept that community factors, work factors, and selective migration are all part of the explanation of high turnover rates in Canadian single industry communities. In addition, it has been argued that expanding labour markets lead to more job-changing by workers since they are less inhibited by fear of not finding another job after letting one go. Thus, the rapid expansion of resource industries in western and northern Canada in the last few decades may have brought with it higher levels of employee turnover. This might explain why mining industry turnover rates were lower than average in the 1960s but then became higher than average in the following decade (MacMillan et al., 1977:79).

Whatever the reasons, the turnover rates themselves are difficult to ignore. The Economic Council of Canada (1976:93) provides data from the mid 1970s showing mining and pulp and paper industries with the highest average annual turnover rates (around 44%). In comparison, annual rates in manufacturing industries were closer to 30%, a level similar to rates for contemporary manufacturing firms in the U.S.A. (Hull et al., 1980). These industry averages look small next to the many examples of annual turnover rates in excess of 100% in specific resource towns (Derbyshire, 1960:64; Robinson, 1962:85; Marchak, 1979:19; Bradbury, 1980; Clement, 1981;340). One commentator on the turnover problem in Thompson, Manitoba remarked: "We have three crews – one coming, one going, and one on the job." (Harrington, 1970:154). Most of these reports of high turnover rates appear to be for the major industries in resource towns or for the construction industry. There has been no research on within-community variations in turnover rates, so we cannot hypothesize differences by industrial sector or occupation.

High turnover rates would obviously concern those responsible for administering community services and those attempting to develop a "sense of community" among residents of new single-industry towns. However, they appear to have most concerned management of industries situated in these towns given the high costs of recruitment and training of new workers (Riffel, 1975:38; Pressman and Lauder, 1978:86; MacMillan et al., 1977:78). Their efforts to reduce turnover reflect some recognition of the complexity of the problem. have worked hard at creating attractive and well-serviced towns, as well as promoting, to prospective employees, the urban amenities found in these towns. Many firms have attempted to selectively recruit employees (e.g. workers with families, those more highly skilled) who are more likely to stay longer (Lucas, 1971:60; Riffel, 1975:40; MacMillan et al., 1977:85). Encouraging home ownership, often via subsidization, has been a tactic chosen by many resource extraction companies, since experience has shown that home-owners are more tied to the community (Riffel, 1975:41; Bennett, 1979:3; Clark, 1979).[9] Others have tried to provide more employment opportunities for wives of workers (Riffel, 1975:41). Recently, efforts to improve working conditions have included introducing new management techniques designed to motivate employees and develop allegiances to the firm. As a manager of a large northern mine said, after noting that turnover rates had dropped from 92% to 32% in four years: "Every effort was made to increase the awareness of every member of the organization ..... that only if the company as a whole were successful would individual aspirations be fulfilled." (Jones, 1979:42). Unfortunately, there have been no well designed studies examining these hypothesized causal relationships.

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[9] The causal direction of this relationship remains unclear since workers who have intentions to remain in a community may be more likely to purchase a home.

Industrial Structure and Labour Relations

The label "single industry community" clearly describes the relatively non-diversified local economies of most Canadian resource towns. A market demand for a single staple product is usually the only reason for the town's existence and, often, a majority of the local labour force is employed in the primary industry. Lucas (1971:16) defined single industry towns as those where at least 75% of the labour force was employed in the major industry or its supporting institutional services. He recognized, then, that support services exist but are limited in number and diversity. Other observers have also noted this characteristic of resource towns, particularly the short supply of retail facilities (Barclay et al., 1974). The underdeveloped local tertiary sector obviously has an effect on the quality of life and, along with the absence of additional primary and secondary industries, severely limits alternative employment opportunities (Stelter and Artibise, 1978:8). The crippling impact on the local economy of strikes or layoffs in the primary industry is evidence of the heavy dependence of the community on a single source of employment. This can be clearly seen in the case of Sudbury which has experienced both strikes and layoffs in recent years (Clement, 1981).

Single industry towns in an earlier era of Canada's history were often also single employer towns. "Company towns" were completely owned and controlled by the resource extraction company (Queen's University, 1953; Lucas, 1971:104). A few examples remain (McFarland, 1980:101) but, in most contemporary resource towns, the service sector now operates independently of the primary sector. Employees in the former, as well as those working for various levels of government, do not share an employer with mill or mine workers.

An earlier generation of resource towns also tended to be based on technologically less developed and more labour intensive industries. Hence, within the primary sector there was less occupational diversity. This factor, in conjunction with an even less developed (and often company owned) tertiary sector, meant that there were very few chances for occupational mobility within the community (Derbyshire, 1960; Lucas, 1971; Clark, 1971). Whether occupational mobility opportunities still are limited in resource towns compared to the nation as a whole is an unanswered question.

One of the few examples of informed sociological theorizing in this literature is the application of Kerr and Siegel's (1954) "isolated mass" thesis of labour militancy to the history of labour relations in western Canadian resource towns (Bradbury, 1980:94; Marchak, 1981:106; Fisher, 1982). It has been argued that the combination of geographic isolation which limited migration options, work-based grievances against distant and unconcerned mine or mill owners, and the absence of occupational mobility opportunities for a large, homogenous mass of workers led to long and bitter labour disputes. Lucas (1971), however, concludes that "[i]n communities of single industry unions are seldom militant" (p. 140) and, further, that "strikes are comparatively few and local strikes or wild-cat walk-outs are rare" (p. 141). He explains that high levels of turnover make union organizing difficult (1971:60,143), and that local union leaders have more in common with plant managers than with absent union officials. Using Lockwood's (1966) classic discussion of "sources of variation in working class images of society", Lucas (1971:143-5) argues that single industry towns often contain strong "occupational communities". But unlike Lockwood who proposed that shared occupational experiences lead to a strong class-based world-view, Lucas suggests that all residents of isolated single industry towns, whether worker or manager, have a feeling of "us versus them" which extends across community boundaries rather than across class boundaries. Hence, within-community class-based conflicts are rare. Himelfarb (1977) supplements Lucas' conclusion with the observation that low unemployment rates and high incomes may make workers less likely to adopt militant union positions.

Thus, we have competing generalizations about labour relations in Canadian resource towns. The "isolated mass" thesis predicts high levels of labour militancy while Lucas observed an absence of militancy. Himelfarb agrees with Lucas but implies that high incomes "buy off" potentially militant workers. However, these may not be incompatible explanations. The competing explanations may be appropriate for different eras in Canada's development, for different types of resource towns, for different industrial sectors, or for different regions of the country. The comparative research necessary to test such hypotheses remains to be done.

Social Stratification

Occupation

Social stratification is discussed in many Canadian resource town studies but the analysis is often superficial. Social status distinctions based on occupations are noted most frequently (Derbyshire, 1960:67; Robinson, 1962:84; Lucas, 1971:148-153; Himelfarb (1977); McCann, 1978:54). Lucas and Himelfarb explicitly argue that occupation is the primary stratifying characteristic in single industry towns. Typically, researchers focus only on the primary industry in the town and note the clear distinction between the managerial/professional group and the remainder of the employees (mainly blue-collar workers). There are also status differences within the latter group since pay and occupational category differences are public knowledge (Lucas, 1971:148).

While blue-collar workers may experience some upward mobility over the course of their working career, the opportunities are limited. There appears to be a consensus that single industry towns allow little vertical mobility out of the industrial occupational group and into the managerial/professional group. Managers, engineers, and technicians are typically brought in from outside of the community (Clark, 1971:71; Stelter and Artibise, 1978:8). "The major barrier to upward mobility arises because the upper levels of the hierarchy operate according to a different principle and with different flows of personnel. The upper echelons are part of an international, national, or company-wide system, rather than a local or community-based system" (Lucas, 1971:153).

Industry

Robinson (1962:81) recognizes that not all members of the labour force in resource towns are employed by the dominant industry. He consequently includes construction workers in his industrial (blue-collar) category, and civil servants, professionals not employed by the major company, and clerical workers in his white collar category. He does not categorize service sector workers, however. Lucas (1971:148-51) supplements his discussion of the occupational gradations and manager/non-manager split within the major industry with a description of a second occupational hierarchy. Individuals not employed by the major company include doctors and other professionals at the top of this "second hierarchy", a variety of white and blue collar jobs in the centre, and unskilled town labourers at the bottom. Lucas suggests that the status of non-company professionals is probably higher than that of the managers and professionals in the company, while the status of the town labourers is lower than that of the lowest level of industrial workers. His portrayal of the parallel hierarchies begins to resemble the model of labour market segmentation which I present in chapter four. He recognizes the cross-cutting stratification systems of occupation and industry of employment, but does not explicitly examine the differences in work experiences and rewards in the two systems. His presentation implies, however, that working conditions and outcomes are similar in the centre of both hierarchies. A more systematic analysis of income differences, job security, working conditions, and the subjective evaluations of these aspects of work would be necessary for a more confident conclusion.

Social Class

As noted earlier, occupationally-based social status has been discussed most frequently in this literature. It has also often been mislabeled "social class". McCann (1978:54), for example, follows Lucas and others in concluding that "the residential pattern of resource towns is differentiated principally by social class" when, in fact, he is examining occupation and income distributions. Forcese (1980:32) comes only a little closer to a conceptually clear assessment of social class in resource towns when he writes: "If a Marxist had wished to create a prototype of capitalist-worker relations, he could have done little better than to devise such communities. They offer a situation wherein there is a virtual class polarization in the sense that there is no substantial middle class of clerical and service workers, or even many small merchants or professionals.". Recognizing that his generalization may be more appropriate to an earlier era of resource towns, it is still not clear whether Forcese is simply identifying broad occupational categories or implicitly differentiating between owners and non-owners and, among the latter, between those who control other workers and those who do not. Although the hierarchies of occupation, income, or social class might overlap considerably, it is essential to distinguish the defining characteristics of social class: the nature of ownership and control as determined by the relationship of the individual to the means of production.

In one of the few published papers explicitly examining social class in Canadian resource towns, Marchak (1975) works from a four-class model: the "policy-directing class" which controls essential resources through ownership rights; the managerial class which has no ownership rights but does have control over other workers and the production process; workers who neither own nor control; and the permanently unemployed and marginally employed. Marchak (1975:33) argues that B.C. resource towns, compared to communities in Ontario and Quebec, have a "truncated class structure". The owners of the dominant industries usually live elsewhere and local owners control only small businesses. The managerial class is also smaller than usual because of the non-diversified nature of the local economy. Although the class distinctions are paramount, other divisions further separate the community. For example, there may be status, income, gender, and ethnic distinctions among members of the working class, and managers may be separated by employer (the main industry versus the state). Finally, Marchak suggests that social conflict in B.C. resource towns may, then, be a product of interaction among these many diverse factors.

Bradbury (1978) examined eight recently built British Columbia resource towns and also concluded that their class structures were truncated. In fact, he suggested that a two class model (managers versus workers) was probably sufficient for describing such towns (1978:13). Bradbury's main thesis is that the move away from "company towns" by the multi-national companies involved in resource extraction was a rational profit-accumulation tactic since more of the costs would be carried by the state and, presumably, labour turnover would be lower. Bradbury (1978:4) also argues that newer "open towns" were designed with the goal of reducing the class conflict for which older B.C. resource towns had a reputation. Although he has little evidence that corporate decision-makers actually had such motives, it is possible that opportunities for home ownership and for local entrepreneurial activity might lead to reduced conflict. In fact, Bradbury (1978:15) concludes that the general level of conflict was not reduced and that strong working class consciousness remains. Class conflict has simply taken new forms such as the involvement of workers in nationalistic unions in conflict with multi-national corporations. It would be interesting to know if similar causes (large multi-national firms engaged in capital-intensive resource extraction with workers living in "new" communities) would lead to similar effects in a province without British Columbia's history of labour militancy.

Scobie (1982) continues this discussion by noting the somewhat contradictory conclusions of Marchak (1975) who states that stratification on several dimensions can lead to social conflict, Bradbury (1978) who claims to find class-based social conflict, and Lucas (1971) who saw little social conflict of any kind within single industry towns. We find again the debate about whether labour militancy (as an expression of class conflict) does or does not exist in Canadian resource towns. Scobie (1982) concludes that a labour market segmentation model, emphasizing social class and other forms of segmentation, might be the most useful framework for guiding the research needed to resolve the debate. Thus, like Marchak and Bradbury, he identifies the typical class boundaries in resource towns. He does not clearly identify the sectoral boundaries in a labour market segmentation model of such communities. Lucas (1971), on the other hand, does not have a clear class analysis, but his discussion of parallel stratification hierarchies provides a starting point for an analysis of segmentation by industrial sector. A research design allowing comparison of the effects of sectoral, class, and other forms of labour force segmentation could be a significant contribution to this research literature.

Gender

In an earlier generation of company towns, women might not have been allowed to participate in any part of the paid labour force. Lucas (1971:105-7) quotes the manager of one such town who reported having 800 men and only 9 women employed by the company. Lucas (1971:95, 110) also observes that any women growing up in the community would have to leave it to find paid work. Today, gender differences in labour force participation may be somewhat less extreme, and variations probably exist among resource towns. Riffel (1975) notes that more employment opportunities for women appear as single industry communities mature. Marchak (1979:15) suggests that resource towns with government officies, regional shopping centres, or tourist facilities provide more jobs for women.

Despite these variations, female labour force participation rates remain lower than average (Lucas, 1971:95; Bradbury, 1978:9-11; Clement, 1981:58). Moreover, women remain unusually over-represented in service, clerical, and retail sector occupations (Marchak, 1979:14-5; Luxton, 1981:176; Evans and Cooperstock, 1982:19-20). In some communities, a few women have obtained traditional "men's jobs" (Bradbury, 1978:9-11) but usually these have been single women. Primary sector employers still prefer not to hire married women (Luxton, 1981:176). Thus, we might hypothesize that the gender-based division of labour in resource towns today is similar to but considerably more pronounced than what we would observe in other Canadian urban centres. [10]

Ethnicity

A pattern of ethnic stratification in the labour markets of staples producing industries has existed for generations. Early Canadian mining and lumbering work camps were inhabited by Anglo-Saxon supervisors and immigrant labourers, usually from eastern, central or southern Europe (Bradwin, 1972; Avery, 1979). Transcontinental railway construction was undertaken with a similarly stratified labour force (Stymeist, 1975:29), with the exception of the addition of thousands of Chinese labourers to the working class (Li, 1979). As single industry communities were established in northern Ontario and Quebec, the dominance of English Canada over French Canada was once again demonstrated. French Canadians made up the largest part of the industrial class (blue collar occcupations) while managers and professionals typically were of Anglo-Saxon origin (Clark, 1971; Lucas, 1971:127-38). Lucas' discussion of this form of stratification illuminates some of the formal and informal mechanisms whereby French Canadian and other non-Anglo Saxon workers were systematically denied access to higher status occcupations.

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[10] This unequal labour force participation of men and women is also a characteristics of U.S. (Moen, 1981) and Australian resource towns (Neil, 1982:31).

Ethnic stratification probably continues in resource towns today, but there have been no investigations of changes in the form and amount of such stratification over time. The increased immigration to Canada of people from third world countries may have increased the ethnic heterogeneity of resource towns as it has done in larger urban centres. The higher than average levels of unemployment in Quebec and Newfoundland have, for some time, been responsible for migration streams to resource towns across the country. It is likely that migrants from these provinces have been over-represented in the industrial classes of expanding western Canadian resource towns but, again, data to test such a hypothesis are not available.

Race

Many resource town studies consider native Canadians within a general examination of ethnic stratification and segregation. There are several reasons why Indian and Metis participation in the local economies of resource towns deserve a separate discussion. Indigenous title to the resource-rich regions, although seldom formally acknowledged, places native Canadians into a different category of resource town residents. In addition, while in-migrants move into new occupations or a new industry following arrival in a resource town, native Canadians are frequently required to make the additional transition to employment within a new mode of production. In some parts of the country this has been occurring for several generations. In other more-recently developed hinterlands (e.g. the Arctic and sub-Arctic regions) the transition is occuring today. Indians and Inuit who began their adult working careers in a hunting and gathering mode of production are becoming part of the labour force in a capitalist wage-labour economy.

Native Canadians and non-native immigrants are seldom equal participants in the labour markets of resource towns (Lucas, 1971:130; Riffel, 1975; MacMillan et al., 1975:40; Stymeist, 1975:66; Elias, 1975:8; Larson, 1979:78; Loxley, 1981:152). Indians, Inuit, and Metis living in or near such communities are frequently unemployed. If they are active in the labour force, their employment is more likely to be irregular and confined to poorly paid, unskilled jobs.[11]

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[11] This pattern of marginal participation in the wage labour economy is not unique to

Thus, in terms of class position, some Indians in these communities could be considered members of the industrial working class while many would be best described as members of a sub-class of marginally employed. Using Lucas' parallel hierarchies model, we would have to place most native Canadians into the lowest level of the "second hierarchy" or perhaps into a third totally separate category.

Only partially integrated into the local labour force, native Canadians are at best marginal participants in the social life of the community (Honigmann, 1965; Ervin, 1969; Riffel, 1975; Cohen, 1978; Vallee, 1978). Excellent descriptions of how native Canadians and non-native residents are separated residentially, economically, and socially in the railway town of Crow Lake, Ontario and in the northern transportation centre of Churchill, Manitoba are provided by Stymeist (1975) and Elias (1975), respectively. Various other writers note how the squatter settlements adjacent to resource towns are largely populated by Indians and Metis (Bucksar, 1970; Koroscil, 1978). The "culture clash" thesis is one of the more common explanations for the incomplete integration of native Canadians into the economic and social life of resource towns. It is argued that the values and life-styles of Indian cultures are, in many cases, incompatible with the secular, urban life-style and wage labour economy of white industrial society (Nagler, 1970; Larson, 1979:75). Native Canadians, considered to be less future-oriented, less experimental and so on, cannot cope adequately when living and working outside of their own cultural milieu. Extensive social problems and decay of a traditional culture are the result (Honigmann, 1965).

Some of the problems with this "culture clash" thesis should be noted. First, this explanation presupposes an intact indigenous culture being forsaken by Indians and Metis migrating to resource towns or larger cities. Often, however, this culture has been long subverted and weakened by the placement of Indians on reservations or in northern communities, and by the removal of most chances for control over their own lives (Dosman, 1972; Adams, 1975). The parallel processes of economic and cultural colonialism (Kellough, 1980) result in a weakened native culture and an

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[11](cont'd)resource towns. Very high levels of unemployment and of welfare dependency are typically reported for native Canadians on reservations and also for those who have migrated to cities (Dosman, 1972:39; Stanbury, 1975, 1979; Statistics Canada, 1980:174; Economic Council of Canada, 1982:11).

equally underdeveloped native economy.

A second problem with this explanation of native Canadians' marginal position in resource towns is that it completely ignores those instances where they have participated successfully in a non-traditional mode of production. The early history of the fur trade in Canada reminds us that, for many decades, Indians and Metis were integral parts of this staple producing industry without suffering any serious cultural decay (Asch, 1977; Elias, 1975). While there is some debate over how long they maintained control over their work as petty commodity producers (Loxley, 1981:156), there is little disagreement about their active and relatively willing participation. Knight (1978) presents evidence documenting extensive Indian participation as wage labourers in the resource extraction and transportation industries of British Columbia from the middle of the 19th century up until the Depression. [12] Contemporary studies have shown that when consultation with native community groups occurs, and when work schedules are arranged to maximize opportunities for participation while minimizing opportunities for social disruption, both employer and native groups are generally pleased with the results (Kupfer and Hobart, 1978; Hobart, 1982a, 1982b). [13] Related to this is the fact that, today, many native Canadian groups would clearly welcome opportunities for stable wage labour employment in resource extraction (or other) industries. Some groups (e.g. the Dene of the Mackenzie Valley) might dispute this generalization because of the strength of their own traditional economy and because of the political position they maintain on land claims. However, with such exceptions, most groups would prefer reasonable wage labour opportunities over the unemployment and welfare dependency they now face (Stanbury, 1975, 1979; Larson, 1979:86; Piche, 1981; Economic Council of Canada, 1982:11).

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[12] There is similar evidence demonstrating that when given sufficient resources and appropriate land, prairie Indians and Metis were quite capable of farming and ranching successfully (Dosman, 1972; Kellough, 1980; Redekop, 1982:75).

[13] In fact, it has been suggested that wage labour can provide enough cash to allow purchase of things like snowmobiles which would allow more successful participation in a hunting and gathering mode of production (Bowles, 1981:91). The other side of this argument is that wage labour by some members of a hunting and gathering community can increase social problems and stratification within the community since young, single males are more likely to be involved in wage labour (Asch, 1977:56; Hobart, 1982b:20).

If the "culture clash" explanation is inadequate, the question becomes: What kind of barriers stand between native Canadians and jobs in resource extraction industries in Canadian single industry communities? Obviously, the absence of high levels of education and of training in specific occupations, the product of the historical processes noted above, must be partially responsible as it appears to be for Indians migrating to urban centres (Stanbury, 1979). However, this is an incomplete explanation since many non-native migrants to resource towns, at least in their recruitment stages, are also unskilled and poorly educated. In addition, researchers have noted that even when Indians (in cities) have obtained occupational training and/or additional education, income and occupational status increases have seldom been the result (Stanbury, 1979:38-9). Having gone beyond the "culture clash" explanation which tends to "blame the victim" for his own predicament (Loxley, 1981:159), and having found only a partial answer in a "human capital" type of explanation, we should look further for structural impediments to equal participation in resource extraction industries.

Loxley (1981:157) argues that following the decline of the fur trade where native Canadians had been useful participants, racial discrimination kept Indians and Metis out of reasonably paid, higher status jobs in newer staple producing industries.[14] Stymeist (1975:63) comments that Indians were generally not hired for railway construction in Ontario because of prejudice and racial stereotypes. He continues by looking at contemporary social relations in the railway town of Crow Lake, Ontario and describes the "informal exclusion" mechanisms which keep Indians out of better jobs and housing in that community (1975:77). His observations have been replicated by many others (Lucas, 1971:136; Elias, 1975:22; Adams, 1975:145). In short, Canadian resource towns appear to have well defined dual labour markets where native Canadians participate, if at all, in lower paid, lower status, less secure occupational enclaves (Scobie, 1982:18).

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[14] An interesting comment appears in an 1888 Senate Enquiry into the feasability of developing oil resources in the Mackenzie River Valley. In response to a question about the availability of Indian labour, we find the answer: "Of course you could get Indian labour for a trifle always, but I do not know that you could depend upon it. Any company would prefer white men." (Co-West Associates, 1981:35).

Elias (1975:1-11) suggests that Indians in towns like Churchill have become a class of permanently unemployed. Loxley (1981:161) prefers to describe the majority as members of a reserve army of labour, useful for keeping wage levels down and for supplementing the local labour force in times of economic expansion. The exact class definition is less important than the fact that a variety of structural barriers appear to keep many native Canadians in resource towns in a marginal employment position. These barriers may include overt discrimination, more subtle informal mechanisms of exclusion, corporations more concerned about returns on investments than about training a local labour force, unions hiring in distant (from resource towns) hiring halls (Bowles, 1981:103), and government bureaucracies which would lose their reason for existence if they helped native Canadians become self-sufficient (Stymeist, 1975:81-5).

C. Social and Economic Impact Assessment Research

Bowles (1981:25-9) notes that many classic sociological and anthropological community studies are really social impact assessments since they examine the effects of an "outside" change agent on an isolated community. Thus, the single industry community studies introduced above could really be called studies of the social impact of resource development. However, contemporary social and economic impact assessment research has a much more narrow focus. Public awareness of some of the negative environmental consequences of industrial development has increased in the last two decades. Consequently, governments have instituted formal environmental impact assessment hearings before allowing some major projects to proceed. They have also begun to require social impact assessments (SIAs), recognizing that individuals, families and communities can be negatively affected. Because it owes its official existence to policy-makers requiring information, SIA is typically prediction-oriented. Finsterbusch (1980:13) defines SIA as "evaluations of policy alternatives in terms of estimated consequences." The research literature, however, also includes a number of retrospective studies of the consequences of various projects. The construction of highways, factories, sports arenas, housing complexes, airports, dams, mines and pipelines have all been considered, in either forecasting or retrospective designs, by practitioners of SIA.

One subset of SIAs, the studies (usually retrospective) of the social and economic consequences of energy resource developments in Canada and the U.S.A., has some obvious relevance to this study. Most of the communities examined are found in the mid-western or Rocky Mountain states (Smith et al., 1971; Nellis, 1974; Gilmore and Duff, 1975; Little, 1977; Cortese and Jones, 1977; Murdock and Schriner, 1978; Little and Lovejoy, 1979; Lovejoy, 1982), although there have also been a few studies of east coast (House, 1980, 1981) and western Canadian energy resource towns (Carcajou Research, 1980; Gartrell et al, 1980b; Nichols and Associates, 1981). Coal, oil, natural gas, and hydro-electricity are the usual staple products. Unlike many of the Canadian single-industry communities discussed above, the development of the energy resource has frequently led to rapid growth and change in a previously existent community, often in a region specializing in agriculture or ranching. As in the case of Fort McMurray's recent development, these communities have been affected by projects initiated by huge multi-national corporations employing modern technologies and investing massive amounts of capital.

These studies of energy resource towns can be separated into two overlapping groups (Champion and Ford, 1980). The first, with a major emphasis on social and demographic factors, is typically more pessimistic in tone. The rapid population growth encouraged by a large industrial development project leads to service and housing inadequacies. Recent migrants, separated from supportive family and friends, have to face these stressful living conditions while adjusting to new work, new housing, and a new community. The results are social disorganization, culture conflicts, and widespread social problems. Thus, rapid population growth is typically seen as the original cause of social problems (e.g. high divorce, delinquency, suicide, alcoholism, drug abuse, and child abuse rates) and community disorganization (Gilmore, 1976; Little, 1977; Albrecht, 1978; Gold, 1979; Davenport and Davenport, 1981), although it is clear that industrial development is really an antecedent cause.

This "boom town" thesis has been criticized for its reliance on only a few case studies (Summers and Branch, 1982), for use of flawed, unstandardized or non-representative data (Thompson, 1979; Wilkinson et al., 1982), and for its sometimes naive attachment to a classical "pastoral rural - disorganized urban" typological model dating back to Toennies, Redfield, and Louis Wirth (Summers and Branch, 1982; Wilkinson et al., 1982).[15] We should also note the general absence of sociological theory, and the tendency to overlook the historical background and larger political and economic processes affecting the community (Newby, 1982; Wilkinson et al., 1982). In addition, the conclusion that energy resource towns are disorganized and alienating ignores the role of selective migration in determining the population mix of the community, and the fact that single industry towns, of which energy resource towns are a subtype, typically mature and "settle down" (Gartrell et al., 1982).

The second major type of energy resource town SIA is usually more concerned with the effects of development on the local economy, and is typically optimistic in tone (Champion and Ford, 1980). The optimism of the predictive SIAs may result, in part, from the fact that interested corporations are frequently instigating or funding the research. However, many of the small western U.S.A. communities affected by recent growing demands for oil, natural gas, or coal have experienced several decades or more of declining population and stagnation in local economies. As Murdock and Leistritz (1979:65) write:

> For most development areas, population growth has been a long unfulfilled goal. The loss of young adults, as a result of undiversified economies and heavy dependence upon an agricultural base with an ever-increasing level of mechanization, has led to older populations, lower income levels, and low rates of overall population growth and has produced areas that generally require growth in order to stabilize their basic infrastructure.

In this literature, then, industrial development is frequently viewed as a cure for an existent problem rather than as a potential cause of problems. More jobs for local residents, more opportunities for local businesses, and potential tax revenues are considered to outweigh social costs (Smith et al., 1971). Despite these optimistic appraisals, there is also evidence that local taxes can increase dramatically with demands for expanded services (Nellis, 1974; Albrecht, 1978), that local residents are frequently less likely to obtain new and better jobs (Markusen, 1978; Little and Lovejoy, 1979), and that local businesses can sometimes experience difficulties competing for labour (Dixon, 1978; Leistritz and Maki, 1981:44).

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[15] A recent (July, 1982) issue of the Pacific Sociological Review contains the replies of a series of researchers in this area to the most recent negative critique of the socially disrupted boom town thesis (Wilkinson et al., 1982).

This research is also largely atheoretical. The growing evidence of systematic variations in employment multiplier effects, ratios of local to migrating workers, labour force size, and labour force skill levels (Leistritz and Chase, 1981; Leistritz and Maki, 1981; Vincent, 1981; Leistritz et al., 1982; Summers and Branch, 1982) could provide an empirical basis for a community level model of economic development. Independent variables might include the size and type of the corporation in question, the isolation of the host community, the type of existent industry and its market strength, and the size and skills of the resident labour force. This theoretical development has yet to appear, although Murdock and Schriner's (1978) examination of occupational and social structures in nine communities at different stages of development is a promising beginning.

Both the optimistic economic impact assessments and the more pessimistic social impact assessments contain some useful comparative information. They also suggest some general hypotheses for this study. The observations that value conflicts arise between new residents and old-timers (Nellis, 1974; Little, 1977; Gold, 1979; Longbrake and Geyler, 1979), and that original residents typically benefit less from industrial development (Nellis, 1974; Summers et al., 1976; Murdock and Schriner, 1978; Little and Lovejoy, 1979) suggest that length of residence within Fort McMurray may be a useful predictor variable. Similar hypotheses can be derived from the generalizations that the elderly, women, those with less education and the unskilled are typically less likely to benefit from energy resource development projects. The emphasis of the economic assessments on job creation, and of the social assessments on unequal distribution of the benefits of development (particularly jobs), together confirm the importance of the general questions guiding this research: has the industrial development in Fort McMurray provided improved employment opportunities and have these been equally distributed across community sub-groups? But the SIA literature has not answered these questions adequately. These studies have seldom included across-community comparisons. They have rarely gone beyond counting the number of jobs created to an examination of the various dimensions of work in a resource town. They have not looked in any detail at the pre-migration work experiences of resource town residents, and they have not examined both the objective and subjective outcomes of work. Finally, and most important, they have rarely presented their findings within a larger analysis of the political economy of resource development, and these findings have not been integrated with a useful explanatory theory at either the individual or the community level of analysis.

D. Summary and Critique

This review of several research literatures demonstrates both the large amount of existent information on single industry communities and the relative absence of sociological theorizing in this area. A study of work and stratification in contemporary Fort McMurray can benefit from this literature in several ways. An overview of the characteristics of Canadian resource towns becomes a backdrop for a more specific and focused study of a single community. The strong emphasis on a small number of topics identifies essential issues which should be examined such as population migration and occupational mobility, social stratification by industry, occupation, social class, gender and race, job satisfaction, and work and class attitudes.

There appears to be agreement among observers that single industry communities move through distinct developmental stages, although this proposition remains to be firmly incorporated into the SIA literature. The population profiles of such communities tend to normalize as the communities mature and the social disruptions of a construction era abate. Single industry towns remain vulnerable, however, since their economies are tied to a single staple product and its world market. The increased capital investments in the mines and mills of resource towns by the multi-national corporations involved in resource extraction, and the larger involvement of the state may make for better planned communities, communities with longer life-spans, and communities with more normal occupational structures, but the research necessary to test such hypotheses remains to be done.

By definition, single industry communities have an underdeveloped service sector. The greater activity of the state in resource towns and the higher level of technology employed by resource extraction corporations might have normalized the occupational structure of contemporary towns compared to those of some generations ago. If this has occurred, are occupational mobility opportunities more like those available in the rest of the country? The research reviewed in this chapter identified occupation as the primary stratifying dimension in resource towns although it is apparent that class and industry distinctions may be equally or more important. Marchak (1975) discusses the variety of stratification systems which might be operating in resource towns but little systematic research exists.

Economic motivations influence migrants to such towns but it remains unclear whether migrants are unusually materialistically motivated. It appears as if different migration cohorts might benefit unequally but, again, this is a hypothesis to be tested. There is a distinct shortage of research on the actual outcomes of migration. Do Canadian resource towns provide opportunities for career advancement, for occupational mobility, for income attainment, and for greater job satisfaction? Furthermore, are these rewards, if they exist, equally distributed? If not, which groups benefit least and what are the mechanisms through which unequal distributions occur? Both the single industry community and SIA literatures would lead us to hypothesize unequal opportunities for women, for native Canadians, for the elderly and for the unskilled. The SIA research literature contains few sociological explanations of such inequalities but it clearly illuminates the important question: Who benefits from industrial development?

There is evidence that turnover rates in single industry communities are high but there is little agreement about the causes. Living conditions in such towns may be responsible for high population turnover, working conditions may be the cause of high levels of labour turnover, or we might simply be witnessing the combined outcome of selective migration, high demand in competing labour markets, and the maturing of the community. This research literature contains many suggestions that working conditions affect job satisfaction which in turn has an effect on turnover rates, but there has been little systematic examination of these hypothesized causal linkages. There are also many references to working class consciousness in Canadian resource towns, but it is unclear whether we should predict a high level of class consciousness and union receptivity, or the opposite. The within-community variations in these subjective outcomes of participation in the local labour market remain to be studied.

The efforts of resource extraction companies to reduce worker turnover and to improve labour relations have included some innovative labour management techniques.

But this aspect of work in resource towns has received little attention beyond the reports of the corporations themselves. Clement's (1981) work on Inco in Sudbury and Thompson is an exception. The different firms, different resources, and different technologies employed in the many Canadian single industry towns make generalization difficult but some further discussion of this aspect of the labour process would be a useful addition to the literature.

There is clearly a large amount of useful material in the research literatures reviewed in this chapter and there are some substantial information gaps. However, there are additional problems encountered when attempting to frame a study of work and stratification in Fort McMurray within this body of research. First, some of the studies mentioned (House, 1981; Marchak, 1975, 1979; Bradbury, 1978, 1980; Scobie, 1982) have begun their discussions within a larger analysis of the political economy of resource development in Canada. This is an important beginning since an adequate understanding of the social processes occurring locally requires such a dynamic historical framework. Sometimes, however, the introduction of societal level models of economic development and underdevelopment to community studies is simply a way of offering an "analysis" without actually coming down to the community and individual level of analysis (Newby, 1982:11). These studies are useful but they are not really community studies. A detailed examination of work and its rewards in a Canadian resource town, and of local patterns of stratification, should be framed within a dynamic model of societal change but should not be replaced by it.

Second, much of the research on single industry communities and on the social impacts of energy resource development is highly focused. There are specific studies of labour turnover, of housing patterns, of job satisfaction, of occupational stratification, and of migration motives. Few of these studies are theoretically grounded and even fewer attempt to link together some of these diverse topics. Lucas (1971), of course, discusses a wide range of topics but does so without any linking theory at either the community or individual level of analysis. The goal, then, is to find a theoretical framework which encompasses many or most of the community-specific issues I wish to examine and which also incorporates a societal-level analysis of economic development. In the following chapter, the community of Fort McMurray will be examined in more detail, following the themes identified in this chapter. In chapter four, I argue that the labour market segmentation perspective on contemporary industrial society provides the most useful framework for examining the various dimensions of social and economic change in Fort McMurray, and for incorporating other research on single industry communities.

III. Fort McMurray, Alberta: A Single Industry Town

A. Introduction

Fort McMurray was initially established with only one function intended: it was meant to be merely a fur collecting depot. As regions further north were opened for resource extraction, Fort McMurray took on a second economic role and, for a long time, the transportation industry was the major source of employment for residents. Over the years, a series of less significant staple products were also exported (e.g. salt and fish), but today oil is the single resource that fuels the community's growth. Thus, like most other Canadian resource towns, Fort McMurray is a community dependent on the extraction of a single natural resource. Unlike many such communities, the resource base has shifted over time. And unlike most other Canadian resource towns, Fort McMurray has been part of a staples producing economy for almost two centuries. The growth and development of this community, and some of the available information on work and stratification within it are discussed in this chapter, following the themes identified in chapter two.

B. Industrial and Occupational Changes

Prior to the 1960s, the fur trade and transportation provided the main sources of employment for residents of the Athabasca region. The former, however, was not a large job provider for residents of the community of Fort McMurray itself. H.B.C. employees and "trippers" (usually Metis) who took supplies out to trappers and brought back furs (Parker, 1980:24-6) lived in the small hamlet but most trapping families lived in the bush during the trapping season. Parker (1980:24-6) notes the existence of almost twenty bush camps in the region surrounding Fort Chipewyan and a few more around Fort McKay. The Cree and Chipewyan Indians of the Athabasca district, numbering around 2700 in 1898 (Parker and Tingley, 1980:73), lived in bush camps in winter and camped around Fort McKay and Fort Chipewyan in summer. Almost all of these bush camps had disappeared by the 1950s because of government pressure on Indians and Metis to place their children in schools, and because of the decline of the fur trade (Parker, 1980:12, 27). The Metis of the region (around 1400 in 1898) were more likely to be living permanently in the settlements including Fort McMurray.

Fort McMurray's population was much more dependent on the transportation industry than on the fur trade. The actual number of jobs is almost impossible to determine from available records. We can get a crude idea of the total number of people working in the region between Athabasca Landing and Fort Chipewyan but have no way of determining how many lived in the central community of Fort McMurray. Since, until well into the 1900s, it was the smallest of the three towns, we could conclude that a minority lived in Fort McMurray. Parker (1980:13-22) describes how scows were built in Athabasca Landing, loaded and run down the river towards Fort McMurray. The scows had to be unloaded twice in route by the seven man crew because of heavy rapids. Between 300 and 400 men, many apparently of Metis origin, were employed annually until the railway replaced the scow traffic. A large number of men (possibly the same individuals) were also employed as "trackers", pulling scows loaded with furs and other goods back out of the region to Athabasca Landing. Seven men typically pulled a 20 foot scow, using a long rope and leather harnesses. Ten or more men were needed to drag the heavier 50 foot scows. The work was extremely hard (Alcock, 1967; Comfort, 1980:19). Following the construction of the steamboat S.S. Grahame in 1883, about two dozen men worked as deckhands as it navigated the waterways north of Fort McMurray. Many others were employed as woodcutters along the route.

The completion of the railway to Waterways in 1921 terminated the scow traffic on the Athabasca River as well as the employment opportunities it made available to indigenous workers. The railway itself was built by a labour force of about 200 immigrants, mainly of eastern European origin. These workers were so poorly paid (15 cents an hour) and worked under such intolerable conditions that they went on strike several times, despite their precarious position as "foreigners". Their employer refused to negotiate after the second strike. Most of the workers had to walk back to Edmonton along the railway line, where they found that two months of work minus food and accomodation charges had gained them around twenty dollars each (Woywitka, 1972). It is noteworthy that, around this time, Indians and Metis in the region were paid $45.00 a trip, which could take over three weeks (Comfort, 1980:22), as trackers on scows. They were also paid between four and five dollars per cord of wood cut and stacked along the river. Individuals could cut and stack between two and three hundred cords a winter (Parker, 1980:19). Thus, there is evidence that, along with participation in the fur trade as relatively independent commodity producers, Indian and Metis residents of the region actively participated in a wage labour economy based on the transportation industry (Littlejohn and Powell, 1981:31). A number were also employed during the early decades of the twentieth century by the federal government forestry branch as fire rangers and fire fighters (Parker, 1980:92–112).

The population of Fort McMurray grew slowly up until the 1960s and various local enterprises, including a lumber mill, provided additional employment for residents. Over 40 conventional oil wells were drilled in the immediate region between 1897 and 1925, although none were successful (Parker and Tingley, 1980:116). Some did, however, hit salt deposits. The salt mine in Waterways operated from 1937 to 1951 and employed about 55 people. About a dozen jobs were made available by the McInnes Fish Company which was shipping fish south from Lake Athabasca. Abasand Oils Limited, which began extracting oil from the oil sands around 1939, was employing up to eighty people when its plant was destroyed in a fire in 1945 (Comfort, 1980:118). During the two year boom surrounding the Canol Project, there were jobs in construction, transportation and service industries for anyone who wished to work. Following this boom, jobs were considerably harder to obtain. Although the town did not develop rapidly in the first half of the twentieth century, there was economic activity and there were employment opportunities, although often seasonal in nature. Thus, the description of the town as "a pocket of poverty" (Gray, 1969:93) should be treated cautiously as should comments that, prior to the entry of multi-national oil companies, "occasional employment was available in the only two industries in Fort McMurray, a small lumber mill and the transshipment of freight..." (Spragins, 1975:48).[16]

By 1961, when interest in oil sands development was beginning to grow again, the labour force of the town consisted of 330 individuals. Transportation remained the largest single industry, accounting for 37% of the labour force (Figure 2). The combination of retail and wholesale trades, financial, and service industries, along with public

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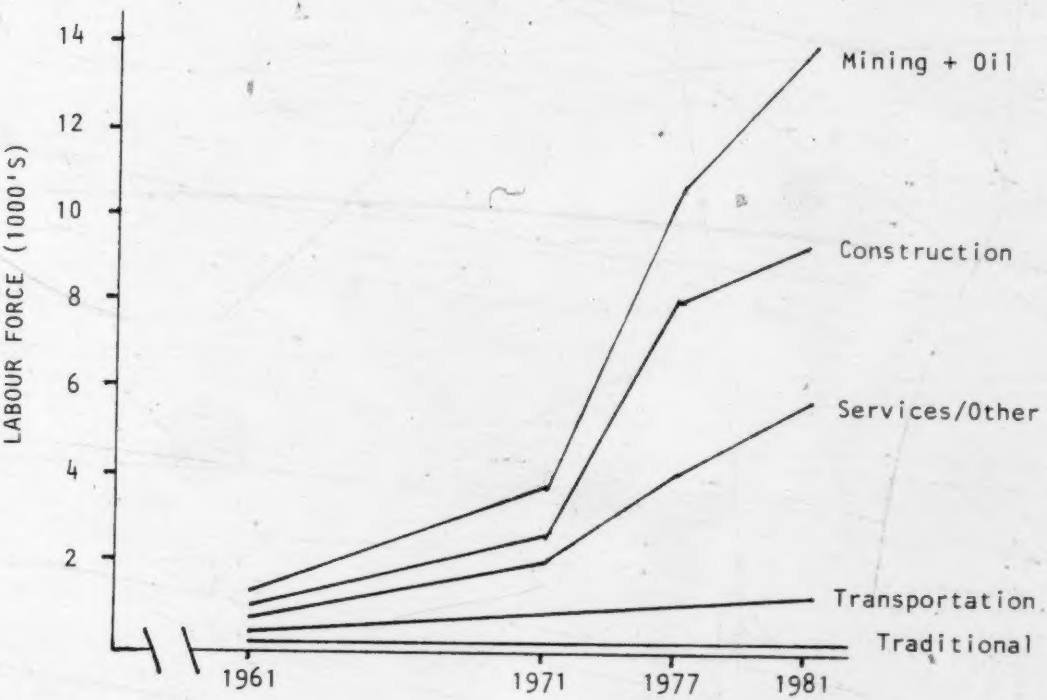
[16] F.K. Spragins was president of Syncrude in 1975 and, in this article, was explaining the difficulties expected by his company. One of these was the absence of a large and skilled resident labour force in the Athabasca region.

Figure 2: Fort McMurray Labour Force by Crude Industrial Categories: 1961 to 1981.



	1961	1971	1977	1981
Traditional	7.4%	1.3%	0.1%	0.1%
Transportation	37.0	6.9	4.8	4.6
Services/Other	46.7	43.6	37.3	37.2
Construction	6.2	12.6	35.4	17.2
Mining + Oil	2.7	35.6	22.4	40.9
	100.0%	100.0%	100.0%	100.0%
Total Labour Force Size	330	2635	9558	13417

Sources : Adapted from Canadian census data presented by Buse (1978:56) and by Nichols and Associates Ltd. (1979:63), and from Fort McMurray municipal census sources. Totals for 1977 and 1981 do not include the unemployed.

administration employed a total of 47% of the labour force. Construction in this only slowly growing town was merely a peripheral industry (6%). Traditional industries (forestry, trapping, and fishing) were also relatively unimportant in the town itself (7%), as they had been for some time.

In 1963, the Great Slave Lake Railway to Hay River was completed, ending Fort McMurray's dominant role as a transportation centre linking southern Alberta to the Mackenzie Basin. Construction of the G.C.O.S. plant began in the same year and for the next 15 years the construction and mining industries alternated as the primary employers in the town. At its peak, the construction of the G.C.O.S. plant north of Fort McMurray involved about 2300 workers, most of whom lived at the site (Nichols and Associates Ltd., 1979:70). The plant began operating with about 150 employees in 1966 and by 1971 over one third of the community's 2635 full time employed workers were employed in the oil sector (Figure 2). Construction was a minor employer in this period between building booms. From 1973 to 1978 the much larger Syncrude plant was built a few miles north of the G.C.O.S. facility and, again, construction dominated the town's economy. In 1977, thirty-five per cent of the about 10,000 member labour force of the town was employed in construction of the plant and the housing necessary for employees (Figure 2). This number excludes the up to 6600 workers living in camps at the plant site which were provided by Bechtel Canada Limited, the major contractor at the site (Parkinson et al., 1979:xvi). By 1981, construction activity had slowed down and the mining and oil sector accounted for 41% of the over 13,000 full time employed residents of Fort McMurray.

Over the twenty year period summarized in Figure 2, traditional industries have fallen into obscurity. Transportation and communications has become a minor industrial category although, in absolute numbers, five times as many people were employed here in 1981 as in 1961. This sector would now include relatively few individuals working in river transportation. The "services and other" category has maintained a fairly constant proportion over this time span. It contains a large percentage of the 1981 labour force (38.5%) since it is actually the sum of a number of distinct industrial sectors. A more detailed classification of labour force by industrial sector, at several points in Fort McMurray's recent history, demonstrates more clearly the essential single industry nature of this community (Table 1). Four of every ten full time workers in the community are

Table 1: Fort McMurray Labour Force by Industrial Sector: 1961 to 1981.

Industrial Sector	1961 (%)	1971 (%)	1977 (%)	1978 (%)	1981 (%)
Agriculture, forestry, fishing, trapping	7.4	1.3	0.1	0.2	0.1
Mines, quarries, oil wells	2.7	35.6	22.4	39.6	40.9
Manufacturing	5.6	2.6	0.7	0.4	1.0
Construction	6.2	12.6	35.4	18.3	17.2
Transportation, communication, utilities	37.0	6.9	4.8	4.1	4.6
Wholesale, retail trade	10.5	10.2	8.9	9.2	10.0
Finance, real estate, insurance	0.6	3.0	5.3	4.9	3.7
Community, business, and personal services	21.0	23.0	16.5	16.7	17.4
Public administration	8.7	4.8	5.9	6.5	5.3
Total (N)	330	2635	9558	10897	13417

Sources: Adapted from Canadian census data presented by Buse (1978:56) and by Nichols and Associates Ltd. (1979:63), and from Fort McMurray municipal census sources. Totals from 1977 to 1981 do not include the unemployed. All distributions are for the full time employed only.

found in the oil sector while the remaining 60% are spread across the variety of other sectors.

C. Corporate and State Involvement

Unlike most Canadian resource towns of single industry, Fort McMurray today is a two-company town. There are several additional test plants in the region, but it is primarily two huge firms which are engaged in oil sands exploitation. Syncrude is the larger and Suncor is the older. Their entry into the oil sands mining and extraction business was preceded, however, by several decades of attempts by smaller firms and individual entrepreneurs to exploit this resource.

Early Entrepreneurs

The earliest attempts, in the first two decades of this century, were conventional drilling efforts based on the assumption that pools of oil must lie somewhere beneath the deposits of oil sands. One of the more flamboyant of the individuals attracted to the area was Count Alfred von Hammerstein who drilled for oil and discovered salt. He set up several oil exploration companies along with the Alberta Salt Company which operated out of Waterways (Comfort, 1980:46-7) but, overall, was more successful at attracting attention to the region than at developing its oil resources. In the late 1920s, an enterprising oil-seeker named Absher was able to extract small quantities of oil from a site near Anzac (40 kilometres southeast of Fort McMurray) by pumping steam into a drilled well (Comfort, 1980:32).[17] Tom Draper incorporated the McMurray Asphaltum and Oil Company in 1922, hoping to extract oil from the oil sands. He was unsuccessful in this but managed to sell the unprocessed resource as a road paving material. A number of Edmonton and Jasper streets, a bridge in Medicine Hat and the railway station platform in Tofield, south of Edmonton, all were paved with oil sand shipped out of Fort McMurray by Draper (Comfort, 1977; 1980:34-5).

In his small plant at Bitumount (80 kilometres north of Fort McMurray), R.C. Fitzsimmons successfully produced unrefined bitumen by using a hot water flotation system resembling that employed today by Suncor and Syncrude. He struggled for several decades trying to obtain corporate financing and government support for his company (International Bitumen Company). In the 1940s, he had to sell out to an eastern Canadian company (Oil Sands Limited) which did not develop the resource or keep up the plant. The plant was eventually taken over by the provincial government. It was used by the Alberta Research Council until the early 1950s to test oil extraction techniques developed by Dr. Karl Clark of Edmonton. Dr. Clark had been working on the hot water flotation process since 1930, encouraged by Fitzsimmons' success with the technique.

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[17] It is interesting that this is essentially the same technique Esso Resources and other major oil companies claim to have "pioneered" in their heavy oil projects near Cold Lake, Alberta.

Sidney Ells, an employee of the federal government mines department had been working in the Fort McMurray area since 1912. Ells appears to have been a tireless proponent of the energy potential in the Athabasca Oil Sands deposits, and an early advocate of the basic extraction and mining techniques used today (Comfort, 1980:16-31). It was Ells' enthusiasim which apparently motivated Maxwell Ball, a Colorado oil man and geologist, to set up Abasands Oils Limited in 1935. This company built a producing plant with a small refinery in the Horse River valley just outside of the hamlet of Fort McMurray. It was highly labour-intensive work as several bridges had to be built to pull huge boilers and other equipment into the bush, and all the equipment had to be lifted and moved primarily without heavy machinery. (Comfort, 1980:64,95).

By 1941, around 19,000 tons of oil sand had been mined, producing around 17,000 barrels of bitumen which was then separated into gasoline, diesel fuel, coke and fuel oil (Comfort, 1980:74). A fire that year wiped out the plant but it was rebuilt in 1942. Wartime demand for oil led the federal government to take over the plant in the same year, but it was never able to get the plant producing properly. [11] A second fire at the Abasand plant in 1945 ended this chapter in the history of oil sands development in Fort McMurray. An era of labour intensive attempts by small companies to exploit the resource was over. The next attempts would be made by multi-national oil companies with large plans, huge investments, and support from various levels of government. While these enterprises would introduce large and costly new technology to the region, it is important to recognize that the basic techniques of extracting oil from the oil sands were developed some decades earlier, by government researchers and individual entrepreneurs (Pratt,

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[11] Comfort's (1980) book THE ABASAND FIASCO attempts to unravel some of the reasons for the failure and, in the process, describes in detail one of the early disagreements between the federal and Albertan governments over ownership and control of oil resources in the province.

1976:38).

Suncor

In 1951, the Social Credit government of Alberta organized the first Oil Sands Conference in Edmonton and invited representatives of the major multi-national oil companies to come and examine the information on oil sand deposits and extraction techniques which had accumulated in the decades earlier. The decision appears to have been made to choose these corporations, rather than smaller Canadian companies or the government itself, to develop the petroleum resources in the Athabasca region. In effect, the majors were given monopoly control over the resource as well as the information necessary to make this monopoly profitable. Large leases at low prices for long periods of time were part of the offer (Pratt, 1976:31-2). The outcome of this political decision in the early 1950s was that these corporations could control the timing of subsequent development of the oil sands. In fact, no major efforts were made until a decade later when market conditions appeared to be appropriate for a large-scale attack on the oil sands.

Fitzsimmons' International Bitumen Company had been taken over by Oil Sands Limited in 1942 and after several subsequent transactions, emerged as Great Canadian Oil Sands. This company was incorporated in Ontario in 1953 with one of its founders being former Prime Minister Arthur Meighan (Stephens, 1969). G.C.O.S. had an intimate relationship with Sun Oil Company Limited, a Toronto-based subsidiary of Sun Oil of Philadelphia. Sun Oil acquired its major oil leases in 1954. They included a 4000 acre tract on the west side of the Athabasca River, about 40 kilometres north of Fort McMurray, which federal government surveyors had identified as a very rich deposit (Pratt, 1976:44). G.C.O.S. contracted to develop this lease while Sun Oil agreed to purchase 75% of the oil produced from it. To finance the project, G.C.O.S. gave Canadian Pacific Railway a 51% share of the company. C.P.R. then sold its share to Sun Oil, leaving it the majority share-holder when construction of the project began in 1962. As Pratt (1976:44) writes: "Sun Oil acquired what Bob Fitzsimmons began in the tar sands back in 1922." In 1979, a decade after the first large oil sands mine/extraction plant began operating, Sun Oil (the Canadian firm) and G.C.O.S. amalgamated to form Suncor Inc., with resources of over one billion dollars (according to company public relations pamphlets). In 1982, the Ontario government (through the Ontario Energy Corporation) purchased 25% of Suncor for $650 million as the firm attempted to "Canadianize" itself to obtain new National Energy Program (NEP) concessions for Canadian corporations.

The construction and early operations of the G.C.O.S. plant were hampered by a series of technical problems, many caused either by cold weather or by the abrasive nature of the oil sand. This may explain the long time before the company began to show a profit, but critics have also suggested that the sales agreements between G.G.O.S. and its parent company allowed artificial deficits to be generated (Hannant, 1975). G.C.O.S. defended itself against such claims and in 1974 the provincial auditor failed to find evidence of financial irregularities (Pratt, 1976:46). Suncor's promotional pamphlets provide the counter-argument that Sun Oil invested millions before getting a return on its investment: "It took another 300 million Sun Company dollars and nearly 12 years before G.C.O.S. finally turned a small profit." Whatever the real story, the long wait for a "profit" became useful ammunition for G.C.O.S. and other oil companies in their subsequent bargaining with governments about royalties and tax concessions (Hannant, 1975:14; Pratt, 1976:44).

Suncor currently employs around 1500 people in its mine, extraction plant, and offices (Nichols and Associates Ltd., 1979:71). Its mining technology includes huge excavating machines and 150 ton trucks which are used to remove the overburden from the mine site. Then 1800 ton bucketwheels which can scoop up to 100,000 tons daily drop the oil sand on to conveyor belts which transport it to the extraction plant. This plant and its associated refinery are powered by an on-site power house producing 70 megawatts per day - enough to satisfy the needs of a city of 50,000 people. The extraction process involves mixing the oil sand with hot water in a massive revolving drum and then allowing the sand to settle and the bitumen to float. The water, sand, and clay end up in a sprawling tailings pond, the future of which is yet to be determined, while the bitumen goes to cokers in the refining area of the plant. The products of this refining process include several hundred tons of sulphur per day and 58,000 barrels of synthetic crude oil (so named because naphtha, kerosene and gas oil which are separated in the refining process are later recombined). The oil is transported to Edmonton by pipeline and much of it ends up in Sarnia, Ontario where the company has a refinery and a petro-chemical plant. A desire to maintain some control over this Sarnia complex probably was among the reasons why the Ontario government purchased its large share of Suncor in 1982.

Syncrude

As the 1960s began, a relatively small oil company, Cities Services Athabasca, Inc., was operating a pilot plant at Mildred Lake, near the Sun Oil lease soon to be developed by G.C.O.S. Co-owners of the plant were Royalite Oil Company (now part of Gulf Oil), Richfield Oil Company (later to become Atlantic Richfield Ltd.), and Imperial Oil (a Canadian subsidiary of Exxon). In 1962, this consortium applied, as did G.C.O.S., to build a full scale plant but the latter company with its smaller plans was given approval and the other application was deferred for five years (Spragins, 1975). The Alberta government appeared to be concerned that too large a push on development of the oil sands might damage the conventional oil industry in the province (Pratt, 1976:43). Syncrude Canada Ltd. was incorporated in 1964 with the Mildred Lake pilot plant owners being the major shareholders. Gulf Oil was the lesser partner (10%) compared to the 30% shares held by the other three companies. All four were affiliates of American parent companies which had combined assets (in 1973) of $40 billion (Pratt, 1976:118-9).

Syncrude's second application to the Alberta government in 1968 was also rejected, but in 1969 the company received permission to build a plant destined to begin operations in the mid 1970s. By 1972, the allowable size of the plant was almost doubled making the Syncrude project into one capable of producing (in 1982) 109,000 barrels of synthetic crude oil daily. Negotiations with the Alberta government about taxes and royalties, infrastructure costs to be carried by government, labour law changes, environmental protection issues, and other concerns are described by Pratt (1976:127-132) who concludes that "Syncrude's ability to set the terms and conditions of tar sands development had by now been convincingly demonstrated" (p. 132).

This was not the end of negotiating, however, since in December, 1974 with construction well under way, Atlantic Richfield withdrew from the project because of growing costs it was encountering in developing Alaskan oil. The Alberta government was firmly committed to the project, had made numerous large concessions to Syncrude, and could not afford to let the project die (Pratt, 1976:163). The three corporations still in the consortium demanded new pricing and taxation agreements as well as government investment in the project, in return for keeping it alive. As Pratt (1976:164-5) argues, state investment in the project was financially useful to the consortium but even more useful in providing greater stability for the project in an unstable market situation. With the state as shareholder, pricing and taxation arrangements, environmental problems, labour problems and all manner of uncertainties faced by the firm could be reduced. Again, politicians capitulated and the federal, Albertan and Ontario governments bought in at 15%, 10%, and 5%, respectively. Ontario's share was later sold and several other ownership transactions occurred in subsequent years leaving the 1982 ownership distribution as follows: Esso Resources Canada Limited (25%), Canada-City Services Limited (17.6%), Gulf Canada Resources Inc. (13.4%), Petro-Canada Exploration, Inc. (12%), Alberta Energy Corporation (10%), Alberta Syncrude Equity (8%), Petrofina Canada Inc. (5%), Hudson Bay Oil and Gas Company Limited (5%), and PanCanadian Petroleum Limited (4%).[19]

The total cost of Syncrude construction was $2.3 billion, considerably higher than the original estimates of $500 million. This total excludes $300 million for the power plant and $80 million for the pipeline to Edmonton (neither owned by Syncrude), $500 million for roads, services and other infrastructure costs, and $300 million for housing (Hobart et al., 1979:67). Company officials report capital investments of over one million dollars per plant employee (Barr, 1978:33). According to the firm's public relations materials (1982), 80% of the original $2.3 billion was spent in Canada and a full 67% of the project was "engineered in Canada". However, Pratt (1976:126) suggests that most of the basic design of the extraction plant was done in the San Francisco offices of Bechtel Corporation, since the major contractor at the construction site was Canadian Bechtel Limited, a subsidiary of the giant American construction firm. This family-owned corporation has been and remains active in mega-project construction around the world. Its Canadian contracts have included the G.C.O.S. plant, the James Bay hydro-electricity project, and the

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[19] Petrofina Canada was taken over by Petro-Canada in 1981 while Dome Petroleum took over Hudson's Bay Oil and Gas in the same year (Niosi, 1981:33). Hence, ownership is really somewhat more concentrated and "Canadianized" than this official ownership breakdown suggests.

Churchill Falls project in Labrador. As a commentator on Bechtel's performance in the James Bay project notes: "With Bechtel it is difficult to tell which came first, the goose or the golden egg. It's the biggest, and so gets the biggest contracts, and so is the biggest. At any rate, it has highly placed friends...." (Auf der Maur, 1974:22). In the U.S. these friends are currently very influential as four of President Reagan's advisors (Secretary of State George Schultz, Defence Secretary Caspar Weinberger, Deputy Energy Secretary W. Kenneth Davis and former special diplomatic envoy Philip Habib) are all Bechtel executives (Sellar, 1982).

Syncrude currently (June, 1982) employs about 3500 people in Fort McMurray. In 1979, the occupational distribution within the firm was 25% administrative/professional/technical, 64% trades workers, and 11% clerical workers (Hobart et al., 1979:75). Another 700 work in its head offices and research facilities in Edmonton but plans are underway to move most of these Edmonton employees to Fort McMurray. The firm's mining technology includes four mammoth 6000 tonne draglines which pick up the oil sand with 60 cubic metre buckets. These machines, operated by two people, and four huge bucketwheels are used to pile the oil sand on a conveyor belt system which extends a total of 20 miles throughout the mine. The electrically-operated belt system is designed to move 6300 tonnes of sand per hour. The mine machinery, conveyor belts, and extraction plant are fueled by a power plant with a 260 megawatt capacity. Syncrude's extraction processes are similar to those used across the road by Suncor, the big difference being that the Syncrude plant has twice the capacity. Suncor and Syncrude apparently have an agreement about sharing technological information. They also share fire fighting equipment and help each other by providing accomodation for workers at times of construction camp overload (Hadden, 1982).

Thus, twenty years after the first applications were made to build large oil sands plants in the region, the local economy of Fort McMurray is dominated by two huge firms, and smaller independent companies are no longer able to compete in the oil sands business, except as sub-contractors to these giants with their major oil company parents. Governments are involved as share-holders in both firms, providing financial and legislative security for their activities. The Alberta government has been helpful in changing labour legislation, agreeable in negotiating taxation and royalty agreements, and accomodating in enforcing environmental protection legislation.

The Alsands consortium which planned to build a third plant further north of Fort McMurray has similar affiliations. Its members included Shell Canada, Gulf Canada and Petro-Canada when the project was cancelled in 1982. Earlier partners had included Hudson Bay Oil and Gas, Amoco Canada and Chevron Standard. Alsands also negotiated with the Alberta government in a manner similar to that employed by Syncrude a decade earlier. Cost estimates for the project rose rapidly to $14 billion as negotiations about royalties and concessions were underway. Alsands wanted a guaranteed 20% return on its investment (Thorne, 1981), requested state investment in the project, and also requested special labour legislation (similar to that enacted for Syncrude) which would eliminate any potential labour disputes during construction.

Since a large share of the Canadian oil industry is foreign-controlled, the major role played by multi-national companies in Fort McMurray's recent economic development is not particularly unusual. The design and construction of both plants was also handled by a multi-national corporation (Bechtel) of similar size, presumably because Albertan and other Canadian engineering and construction firms were considered incapable of completing such a large project. F.K. Spragins, former president of Syncrude (and before that, an Imperial Oil executive), expressed this sentiment clearly when he wrote:

> Multi-national corporations have invested by far the largest amount of money and time in research and development work in the tar sands. They possess the necessary technological and managerial expertise as well as sufficient financial capabilities to accomplish development. This is not generally true of Canadian corporations. The Canadian government, alone or in conjunction with industry, could possibly develop the tar sands under exclusive Canadian ownership, but this would take time during which Canadian energy needs would increase to unmanageable proportions. Without long-range development guidelines to insure to the multi-national corporations sufficient stability and security to justify very large investments, the interest of these important organizations could wane or even vanish. (Spragins, 1975:49).

These comments clearly state the typical posture of the major oil companies as they have begun to include the Athabasca oil sands in their planning: Canada needs its oil reserves developed but cannot manage it alone, so the majors will share their expertise and invest their capital, under certain conditions.

The State and Local Entrepreneurs

The state has been accomodating, as already noted, and is now involved in the local economy as a share-holder in the dominant firms. It has also been involved for a number of years in directly administering the town. Because of its status as a "new town", Fort McMurray was able to receive additional government funding. However, the provincial government also appointed a regional commissioner who was responsible for much of the administration of the town and who answered only to the provincial cabinet (Van Dyke and Loberg, 1978:67). With its recent (1980) graduation to city status, Fort McMurray has regained some of its political autonomy and lost its regional commissioner.

The state also functions as a local employer since Fort McMurray has become an important regional administration centre. A fairly large proportion of the labour force is employed by various agencies of the provincial and federal governments. The 1981 municipal census (City of Fort McMurray, 1981:19) reports that 5.3% of the full time employees in the town work for government agencies. An additional 5.3% are employed in education and 3.5% in health and welfare, both industrial sectors in which the state is a major employer.

There are, of course, additional independent business enterprises in the community since it has never been a "company town" in the traditional sense. Hobart et al. (1979:88) present data showing a large number of construction firms (78 in total) in the town. They suggest that retail and service businesses are in somewhat short supply but that the situation is improving (1979:68). Unlike the B.C. logging and pulping towns described by Marchak (1979:25) where most small businesses are franchises or branches of larger outside companies, Fort McMurray still offers some opportunities for local entrepreneurs outside of the oil sector. Nichols and Associates Ltd. (1978:152) conclude their survey of local businesses by stating that "Fort McMurray has provided a fertile ground for entrepreneurship of all kinds..... [and] there have been opportunities for enterprises of many different kinds."

Some local businessmen and local developers benefitted handsomely from the rapid growth the town experienced during the G.C.O.S. and Syncrude construction eras (Hannant, 1975). Van Dyke and Loberg (1978:53) record the impressions of some Fort McMurray residents who believe that a small group of influential businessmen control the local (non-oil) economy and also have an unusual amount of influence with the provincial government. While a few local individuals and business enterprises have done well, others have experienced difficulty in competing with the oil companies for labour, since these large firms can afford to pay more (Van Dyke and Loberg, 1978:48). The vulnerability of small businesses in a single industry resource town was made clear when Alsands cancelled its project in the spring of 1982. Many had apparently made sizeable investments, anticipating another period of rapid growth in the community, and stories of bankruptcies and imminent business failures appeared frequently in the local and Edmonton newspapers.

D. Migration and Population Growth

Because of its changing resource base, Fort McMurray's growth pattern has been unlike the stages of development passed through by most single industry towns. The primary difference, beyond its two century history, is that this community has experienced a series of massive construction booms. The first was the shortest – the two year boom resulting from the Canol pipeline project during the war. G.C.O.S. and Syncrude plant construction, and the consequent demands for housing for workers, created the growth spurts of the 1960s and 1970s. The town's annual growth rate averaged 39.8% from 1964 to 1967, 10.4% from 1968 to 1972, 20.5% from 1973 to 1978, and 7.6% from 1979 to 1981 (City of Fort McMurray, 1981:2). With each of these building booms, the industrial balance shifted first to construction and then back again to the oil sector. Table 1 portrayed the industrial profile of the community in 1977 and 1978 when one such change was occurring. The proportion of the full time employed labour force in construction was cut almost in half in a one year period.

These construction eras brought with them the chaotic living situations described by observers of other rapidly growing energy resource towns. There is little documented evidence of service and housing shortages or of social disorganization from the G.C.O.S.

building years, although there is no reason to expect that the community escaped such problems. Professor J.S. Matthiasson, an anthropologist affiliated with the University of Manitoba's Center for Settlement Studies, surveyed residents of the community in 1969. He noted dissatisfaction with access to southern cities, with communication facilities (particularly the lack of television) and also with medical facilities, and recreation and entertainment opportunities. Housing and education facilities were not viewed as problematic (Matthiasson, 1970). Thus, by 1969, the community appeared to be moving beyond the "boom town" stage although there were still some service deficiencies.

Considerably more has been written about the living conditions in Fort McMurray during the Syncrude construction era. Van Dyke and Loberg's (1978) participant observation study of the community at the peak of this building boom clearly recounts the feelings of residents experiencing housing shortages, inadequate services, high living costs, and encounters with a highly transient and boisterous construction labour force. High levels of alcohol use and increased crime rates were noted (Johnson, 1979; Hobart et al., 1979:119-131), as were alienating living conditions for some residents of construction camps (Parkinson et al., 1979). The highway between Fort McMurray and Edmonton became notorious for its unsafe conditions on weekends. It was nicknamed the "Bechtel 500" because of the thousands of construction workers racing south for a weekend in Edmonton (Johnson, 1979:36; Parkinson et al., 1979:59).

Like other rapidly expanding resource towns, Fort McMurray has attracted migrants from across the province and across the country. Matthiasson (1970, 1971) asked his 1969 respondents about their place of birth but did not report the distribution of answers to this question. Re-analysis of his data reveals that only 43% of his sample were born in Alberta and a further 37% were born in other parts of Canada. A total of 20% had been born outside of the country, compared to only 15% foreign-born in the province in 1971, according to the Canadian census (Kalbach and McVey, 1979:187).[20] Data for the Syncrude era is a little more complete and generally refers to the last place of residence before moving to Fort McMurray. Nichols and Associates Ltd. (1979:77-78) report that prior to the peak of Syncrude construction about 60% of local residents had arrived from elsewhere in Alberta. The 1975 municipal census reported an increase to

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[20] A discussion of my secondary analysis of Matthiasson's 1969 survey data appears in chapter five.

78% from within the province but, by 1978, this had dropped down to 42%, and 50% from elsewhere in Canada. A February, 1978 survey by Alberta Housing provided roughly similar proportions: 49% of current residents from within the province and 45% from other parts of the country (Hobart et al., 1979:155). By 1981, the Fort McMurray municipal census reported that 44% of current residents (excluding those who did not answer the question) had come from within Alberta, 52% had migrated from other parts of the country, and only 4% had come from other countries (City of Fort McMurray, 1981:5). Ontario and Newfoundland were the provinces providing the largest number of migrants (18% and 11% respectively). The local joke that Fort McMurray is the second largest Newfoundland city thus appears to have a basis in fact.

Looking back over the last decade, it appears that prior to the Syncrude construction era the "inter-provincial migrant" mix in Fort McMurray was about normal for the province (Nichols and Associates Ltd., 1979:77). During construction, the proportion of community residents and work camp residents from within the province was considerably higher, since a large proportion of workers hired on the project were Alberta-based. Mitchell (1981:396) reports that 66% of the almost 35,000 tradesmen who worked at the site at some time during 1975 to 1978 were from Alberta. Following construction, the proportion of Albertans has declined considerably. This might be because Alberta-based unions were involved in providing labour for construction while non-unionized Syncrude has been less restricted in its hiring practices during its operations phase.[21] Alternatively, this change may simply reflect the occupational distribution of the province of Alberta. Because of the way in which the economy of the province has developed, there may be a reasonable supply of construction workers but a smaller proportion of workers with the skills needed during the large plant's operations phase. A third explanation might be that, at the end of the 1970s, the Albertan economy was stronger than that of most other provinces. Consequently, more migrants seeking employment would be expected from other provinces than might have been the case a few years earlier. Whatever the reason, it appears that employment benefits for the province of Alberta were greatest during the construction of the plant, both in relative and absolute terms.

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[21] Syncrude was recruiting extensively outside of the province before the construction phase was over. In March of 1976, Syncrude announced that it had recruited 485 Newfoundlanders.

The motivations of migrants, as far as they can be determined, also appear to be like those of migrants to other resource towns. Over three quarters of Matthiasson's sample stated that they had moved to Fort McMurray because of employment reasons and 59% believed that others had come for the same reason (Matthiasson, 1971:23, 25). Parkinson et al. (1979:52-55) emphasize the monetary motivation of most construction workers but also describe career construction workers and those going north to get away from something. Johnson (1979:33, 51) suggests that many people have come to Fort McMurray hoping to "get rich quick". He concludes that the frequent failure to reach this goal is one of many causes of individuals' adjustment problems in Fort McMurray. Three quarters of the 1977 residents interviewed by Van Dyke and Loberg (1978:111) also noted economic motivations (not always as primary reasons) but these researchers emphasized the additional reasons provided by migrants. These included company transfers, getting away from unsatisfactory social settings, and a general desire for a change or for adventure. Nevertheless, they write that "people emphasize activities which will provide the material benefits for which they strive and place low priority upon any other activity" (1978:117).

E. Labour Turnover

Turnover rates have also increased and decreased with changes in local economic activity. Again, little detailed information exists from the early G.C.O.S. era. Matthiasson (1971:27) comments that "the main cause of high turnover in resource frontier communities similar to Fort McMurray is not directly related to working conditions." The opposing viewpoint is provided by an anonymous writer in the Western Miner (1969:66) who describes how it took some time before construction contractors could "weed out" those not willing to work away from home and under difficult conditions. Only then did turnover rates drop. With the advent of Syncrude construction G.C.O.S. apparently began to experience difficulties keeping its employees. Up to 50 per month were leaving, some to work at the new plant site (Hannant, 1975:13).

More specific information exists from this time forward. Nichols and Associates Ltd. (1979:89) report 1977 turnover rates of 34% for Syncrude and 1978 rates of 30%

for G.C.O.S., but much higher rates (80%) for the municipality of Fort McMurray in 1976. This had dropped to 30% by 1978. Less well paid employees of the municipality and of local small businesses may have been leaving to work for the oil companies, a problem noted by Van Dyke and Loberg (1978:48). Estimates of construction camp turnover rates are very much higher. Parkinson et al. (1979:72) suggest an average annual rate of 200% over a five year period. An even higher estimate (25% to 30% per month) is provided by Mitchell (1981:394) who comments that Bechtel Canada thought that this was "quite good for this type of project".

A large proportion of this construction turnover may have been unavoidable since certain types of trades are required for specific time-limited jobs (Parkinson et al., 1979:72). Some of the construction work probably could not be completed during the coldest part of the winters so some lay-offs and re-hirings may have been a product of the seasonal nature of the work. This is characteristic of the construction industry in Canada as a whole, as is the high geographic mobility of construction workers (Jenness, 1975:3-7). Parkinson et al. (1979:73) suggest that frequent job-changing is part of the construction "way of life", an observation echoed by researchers of oil-based development in Scotland (Taylor et al., 1981:105). This "way of life", in turn, is one more appealing to young, single males who constituted a large part of the Syncrude construction camp population. Thus, demographic factors as well as the organization of the construction project may have been partially responsible for high construction camp turnover rates. Working conditions were also important, however, as were living conditions in the camps (Parkinson et al., 1979:74).

Population turnover in this community has clearly declined since the Syncrude plant became operational and construction activity slowed down, but accurate estimates are unavailable. Examination of 1979, 1980, and 1981 Fort McMurray census documents (questions about length of residence in the community) suggests a two-year turnover rate of around 27% but other unofficial sources would make this rate appear rather low (Gartrell, 1982:3). Syncrude officials estimate current labour turnover rates (June, 1982) to be around 6%, down from around 30% two years earlier (Hadden, 1982) and also in 1977 (Syncrude Canada Ltd., 1978a). An unpublished Syncrude "termination list" covering the first ten months of 1982 contains around 540 names. Assuming the maximum

Syncrude labour force (in Fort McMurray and in Edmonton) to be around 4200 in 1982, this suggests a monthly turnover rate of 1.3% and an annual rate of over 15%. This is not unusually high but certainly higher than the estimates provided by company officials. Thus, the current level of turnover in Syncrude, in Suncor, and in the rest of the local labour market is difficult to determine. Equally important, there is little information about the major reasons for job-leaving in the post-Syncrude construction era.

F. Labour-Management Relations and Job Satisfaction

Labour-management relations appear to have been relatively conflict-free in the recent history of the community but, again, little detailed comparative information is available. Woywitka's (1972) discussion of the strike of railway construction workers in 1916 is one of few recorded accounts of actual labour strife in the region. The relationships between workers and employers was not one of the issues concerning observers of the community in the next few decades.

Labour relations and job satisfaction are addressed somewhat more frequently as topics in accounts of the G.C.O.S. and later Syncrude eras in the town's development. Respondents in Matthiasson's 1969 survey were asked whether they were satisfied or dissatisfied with labour-management relations, union activities, working conditions, opportunities for advancement, salaries, fringe benefits, vacation time, and job security. Matthiasson (1971:39) concluded that his data demonstrated a high level of satisfaction in all but two of these areas. He also suggested that dissatisfaction with labour-management relations would be a useful topic for further research. However, compared to other national studies which will be discussed in a later chapter, his data actually show low levels of satisfaction (around 40% satisfied) with labour-management relations and union activities, and only moderate satisfaction (between 50% and 60%) with the other factors. Some of this may be due to a methodological error (including all adults, employed or not, in his analysis), making re-analysis of this data necessary (chapter eight).

While Matthiasson surveyed Fort McMurray during the early years of G.C.O.S. operations, Parkinson et al. (1979) tried to study life in the Syncrude construction camps after the construction era was over. Their interviews with former camp residents and operators addressed a variety of topics and, occasionally, centred on the satisfaction and morale of workers in the camps. Parkinson et al. note frequently that the physical characteristics of construction camps directly affect worker morale and rates of turnover. They suggest that the on-site tavern (the Muskeg Club) was welcomed by workers as well as by residents of the town (Parkinson et al., 1979:58), and that Bechtel provided a reasonably civilized living situation in the camps. This, along with potentially high incomes, may have had a positive effect on the labour relations climate during construction.

A total of 436,560 man-hours were lost to all causes throughout the duration of Syncrude construction. Jurisdictional disputes between trade unions over the responsibility for specific tasks accounted for 40% of this lost time. The 1976 Canadian Labour Congress National Day of Protest over wage and price controls accounted for 28% by itself, and the remainder was due to grievance disputes (Mitchell, 1981:412-416). The main reason for the absence of any major labour disputes, however, was the labour stability agreement negotiated by Syncrude with the provincial government prior to agreeing to proceed with the project. The government made changes in the Labour Relations Act, allowing the principal contractor (Bechtel Canada) to negotiate a special contract for the life of the construction project, thus eliminating the chances of costly strikes and lock-outs (Mitchell, 1981). Unions, in turn, could expect to be able to negotiate higher settlements and job security for their members for the duration of the project.

Labour relations and worker morale in this community have not been carefully examined since Syncrude operations began although the potential for an interesting study exists. Syncrude introduced a "team concept" management approach when it began operations, and has tried to use modern management techniques in its plant. The goals obviously include improved labour-management relations, lower turnover, and increased productivity. Turnover has apparently decreased, but it is not clear that employees are satisfied with this new approach. An unpublished in-house 1980 survey of employee satisfaction revealed a large amount of discontent with the team concept and with management in general (Schuler, 1980).

An additional goal may have been to keep unions out of the new plant and mine. Whether the team concept management style has been responsible or not is uncertain, but

Syncrude has withstood several unionizing drives since it began operating. Among the unions interested in the several thousand Syncrude workers have been the local McMurray Independent Oil Workers (MIOW) and the larger Energy and Chemical Workers Union. The MIOW has been considered a relatively weak union by some observers including its rival, the larger international union. Hannant (1975:14) states that the MIOW grew out of a G.C.O.S. company union and that company legal aides drafted the original union constitution. Recently, with attempts to organize Syncrude and with protests against provincial labour law changes requiring the working of twelve hour shifts on demand by an employer, this union has been acting more aggressively. All of this makes the local labour scene a highly interesting arena for social research.

G. Social Stratification

Industry, Occupation, and Social Class

Lucas' (1971) proposition that occupation is the primary basis of social stratification in single industry towns does not seem to describe contemporary Fort McMurray. Instead, the evidence suggests that stratification by industrial sector of employment is more important. It its pre-oil development days, Fort McMurray's labour force could have been separated into those with jobs in trapping, transportation, timber or trade, but this would have been as much a social system differentiated by industry as by occupation. During the lengthy periods when the G.C.O.S. and Syncrude plants were being built, construction workers were a very distinct group within the labour force but, again, this could be considered stratification by industrial sector.

It is generally accepted that construction incomes were high during the two building booms. Nichols and Associates Ltd. (1978:119) present tax return data which show that, from 1967 to 1976, Fort McMurray individual income levels were between 13% and 25% above the provincial average. Overtime work appears to have been the major source of the unusually high incomes available in the construction sector. The labour agreement negotiated for the Syncrude project guaranteed workers a minimum of 10 hours overtime per week at double normal hourly rates. However, Hannant (1975:13) notes that while some construction workers employed by Bechtel (tradesmen and heavy equipment operators) were making $12 an hour, most labourers at the Syncrude site were earning only around $1000 a month. But much lower incomes ($400 to $500 per month) were typical of the service and retail industries in the town. As one of Van Dyke and Loberg's respondents recalled: "I was told by a friend that drivers here made six to nine dollars an hour. Unfortunately, he forgot to add that this was only for union men, so I had to take a job at $3.50 per hour when I first came." (1978:110). Because Bechtel operated with union labour, this individual must have taken employment elsewhere in the town. Thus, during the construction eras of the 1960s and 1970s, a major split in the local labour force would have been between those employed in the construction of the plants and those working elsewhere.

With construction activity slowing down since 1978, high incomes based on overtime work have become more scarce. However, the increased costs of living during this boom period, and the precedents set in the construction sector, led to other high wage settlements in the oil plants and in the government sector (Nichols and Associates Ltd., 1979:126-9). Consequently, average incomes in Fort McMurray are probably still above provincial averages, but this remains to be demonstrated. Local averages may conceal much lower incomes in the less dominant and less profitable service sector than in the oil sector. Syncrude has made a point of paying its employees at above industry averages. In 1978, the director of Employee Relations stated that "our objective is to ensure that our pay practises remain competitive with about the 12 leading companies in the mining, petroleum, and utilities industries. We want to keep our salaries in the top third of that group." (Syncrude Canada Ltd., 1978c). In June of 1982, Syncrude could still report that it "paid number three" in the industry, while Suncor was number four. In specific amounts, that meant that a dragline operator (the top hourly paid job in the mine) could earn around $3000 a month (Hadden, 1982). Syncrude pursues its goal of competitive wages, no doubt, to reduce employee turnover and increase worker satisfaction, but high pay schedules are also useful in heading off union organizing efforts. In the 1980 attempt to unionize the firm, the Energy and Chemical Workers ran adds in the local newspaper with the headline question: "Why do I need a union when my wages are in the top 1/3rd?"

Syncrude and Suncor employees also benefit from substantial housing subsidies in various forms. Lease- purchase agreements, rental subsidies or, in some cases, free rent are all ways of supplementing incomes, and countering high living costs faced by workers. Alternatively, the companies benefit from the reduced turnover which subsidized home purchases may generate. One of Van Dyke and Loberg's respondents commented that "The people who work for Syncrude or GCOS are okay in terms of housing prices. But if you don't work for one company or the other, about one half of your income is taken up by the cost of housing. You are really in trouble if you don't work for one of the large companies."(1978:19). These large companies would include Canadian Bechtel which provided room and board at no cost for single employees in the work camps during the Syncrude construction era (Van Dyke and Loberg, 1978:24). Government employees and unionized employees of the municipality have also received smaller housing subsidies (as well as northern living allowances). Nichols and Associates Ltd. (1979:128) estimated that employees of the oil companies and of the government (at all levels) were earning between 15% and 20% more than their occupational counterparts in the rest of the province, if you included the value of housing subsidies and other benefits.

Equivalent data on incomes and benefit provisions for employees in other sectors of the local economy are not available. However, the earlier pattern of industrial differences would lead to the hypothesis that the service and retail sectors remain much less well-paid. We could further generalize that stratification by industry has been prominent in this community for most of the last two decades. During construction eras, that industry may have been the most financially rewarding for workers but, otherwise, oil company employment seems to be the better-paid. While Lucas' (1971) emphasis on occupational stratification may not be appropriate to this community, his model of "parallel hierarchies" is very relevant. Fort McMurray today appears split into two well-defined groups, those that work in the oil industry and those that do not. A qualification might be that employment with agencies of the state (at various levels) also appears to be reasonably well-paid.

It is possible that company housing policies have contributed to a situation where there is limited social interaction between oil company workers and their families, and other local residents. The largest examples are the Abasands Heights housing complex and the downtown apartment towers built and operated by Syncrude's housing subsidiary, Northward Developments Ltd., for employees of the parent company. Other parts of the town appear to have a somewhat more heterogenous population mix. Segregated company housing, along with company-provided bus transportation to the mines, mean that "social groups, even for wives and families, are based upon the company for which the husband works. A very strong consciousness of company group exists." (Van Dyke and Loberg, 1978:76). [11]

Information about social class distinctions in this community, in earlier or contemporary times, is virtually non-existent. Before the era of multi-national oil company developments, the local capitalist class was recognizable and active in the community. With the end of this era, ownership of the dominant means of production became invisible, with oil company managers representing the parent firms in distant cities and other countries. These managers, unlike the working class, have some control over the local productive enterprise and over other workers but, like the working class, have no ownership rights. A class of local independent businesspersons does exist, but it is difficult to estimate whether it is smaller than or of similar size to the equivalent class in other resource towns or in more "normal" small Canadian cities. Comparison data do not exist. There is, of course, a very large working class, split across several industrial sectors as suggested above. The working and managerial class probably account for a very large majority of the local population. Bradbury's (1978) proposition that a two-class model fits B.C. resource towns may also be generalizable to Fort McMurray. Below these two classes there exists a smaller sub-class of under-employed or permanently unemployed residents. There is little concrete information on the size of this third class, or on whether it is a stable group or one with constantly changing membership.

Several interesting research questions are suggested by this very cursory class profile of the community. Does industry-based stratification become the more important form of social stratification in such a community, or does class remain an important explanatory concept? Do attempts to introduce participatory management techniques such as Syncrude's "team concept" lead to erosion of "worker versus management" class based feelings and actions, or has this experiment in industrial relations been unsuccessful? Do workers in a town which, on the average, has a high standard of living, perceive their life-chances from a class-based perspective? Finally, do industry, occupation, and social class constitute all essential forms of social stratification in this community, or do gender, ethnicity and race also play a part?

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[11] The earliest example of spatially separated, better quality company housing in this community was the complete company town built by Abasands Oil in the Horse River Valley (Comfort, 1980:114-119). While Fort McMurray residents in the 1940s typically did not have running water or electricity, these conveniences were part of the package for Abasands employees.

Gender

The single industry community literature clearly describes the secondary position of women in the labour markets of Canadian resource towns. The jobs in the primary industry are usually "men's jobs" – traditional blue-collar jobs to which women have often been denied access. The available evidence suggests that Fort McMurray has been little different than other towns of single industry in this respect.

We can assume that women played an active role in the fur trade economy in the Athabasca region as they did elsewhere in the country, but there is little information on female labour force participation or gender-based stratification from Fort McMurray's pre-oil development days. Women were probably hired in the fish packing and salt plants, and they undoubtedly found employment in restaurants, hotels and other similar establishments during the Canol boom during the war. Parker (1980:31) reports that women employed in the Waterways salt plant earned about one-third the hourly wage given to men in the plant.

In 1961, the female labour force participation rate in the town (20.4%) was well below the provincial average. By 1971 it had risen to 39.6% and, by 1976, Fort McMurray's female labour force participation rate was 46.9%. This was more than double the rate 15 years earlier but still somewhat short of the provincial average (50.2%) in 1976 (Nichols and Associates Ltd., 1979:61-2). By the time the Syncrude operations era was beginning, women appeared to be entering the local labour force at rates similar to the provincial rate. They also appeared to be entering typical "female jobs". Nichols and Associates Ltd. (1979:74) present 1978 municipal census data showing 11% of jobs in the mining industry and 11% of jobs in the construction industry, but 56% of service, public administration and financial/insurance sector jobs held by women. This classification by industry of employment implies a greater variation in women's jobs than actually exists since women working in the mining industry could still be employed in clerical occupations.

During the G.C.O.S. construction period, no women were living in the on-site camps housing the construction work force (Parkinson et al., 1980:46). A local trades training school offered construction and heavy equipment operations courses for men and, in 1967, was planning to include courses in business administration, hair dressing, and food services for women (Mair, 1967:82). We can deduce from these bits of information that few women were employed on the project. Around 500 women were employed by Bechtel as labourers, clerical workers, heavy equipment operators and truck drivers, among other jobs, during the 1973 to 1978 Syncrude construction era (Western Miner, 1978:10). As this appears to be an estimate of the total number of women hired (rather than the number of female jobs), and since Bechtel hired a total of 34,896 people during the course of the project (Mitchell, 1981:398), we might conclude that only 1.4% of all construction workers hired were women. Consequently, while some women did manage to obtain "men's jobs", and higher incomes (Van Dyke and Loberg, 1978:45), they were exceptions.

In 1971, between construction booms, a majority of the full-time employed women in the community were working in service sector jobs, and they were receiving incomes that were about 90% of average female incomes in the province. In the same year, average female incomes in Fort McMurray were about 32% of average male incomes in the community which, in turn, were higher than average male incomes in the province (Nichols and Associates Ltd., 1979:74, 124). With the beginning of the Syncrude operations era, female work opportunities may have improved somewhat but there is still a very substantial male-female difference. Hobart et al. (1979:75) report that 12% of the May, 1978 Syncrude labour force was female. Within the firm, 81% of the clerical workers were female but only 2% of the trades workers were women. These differences in occupational distributions are reflected in male-female income differences. The average income of male Syncrude workers in mid-1978 was $21,000 compared to the average income of female employees of the firm which was $14,600 (Nichols and Associates Ltd., 1979:130). By June of 1982, a Syncrude tour guide could report that

18% of all employees were women but that few of these women were working in outside jobs.

In short, women are active in the local labour market but primarily in service, retail trade, and public administration sectors. Women also have considerably lower incomes than do men, making the Fort McMurray labour market similar in this respect to other labour markets in contemporary Canadian cities. Whether the gender wage-gap is larger, whether there is even less female occupational diversity than normal, and whether women and men have equally shared any occupational mobility opportunities are as yet unanswered questions to be considered in later chapters.

Ethnicity and Race

Woywitka's (1972) account of the 1916 strike of railway construction workers notes that all of the labourers were of eastern European origin while their supervisors were Anglo-Saxons. There is little other information about ethnic stratification in the community, at the present or in earlier eras. However, the subordinate position native Canadians have come to fill in the local labour market has been more fully documented. Both Parker and Tingley (1980:92-112) and Littlejohn and Powell (1981:33) describe the history of native Canadian participation in the fur trade, in the transportation industry, and also in various government jobs including those available in the federal government Forestry Branch. They then discuss how in the early 1920s Indian and Metis workers were systematically eliminated from Forestry Branch jobs. Previously, they had been paid less than other workers for the same jobs, but now the drive to hire veterans combined with racial prejudices to close this area of employment to the original residents of the region. This is a clear example of native Canadians being deliberately excluded. Subsequent exclusions have been less deliberate but equally injurious. In general, with the collapse of the fur trade and the replacement of river transportation with a rail system, native Canadians in the Athabasca region were being economically marginalized before the era of oil development began.

There were probably jobs for native Canadians in Fort McMurray during the wartime Canol boom, as there were for all local residents, but this short economic upturn was quickly succeeded by an economic bust (Littlejohn and Powell, 1981:35). Following the war, some residents of Anzac found work in the construction of a nearby radar site (Van Dyke and Loberg, 1978:125) but this, too, was a limited time opportunity. However, the era of oil sands plant construction was an era of incredible demand for labour, and one available pool of workers was the indigenous population of the region.

There appear to be two somewhat different stories of native Canadian participation in oil sands development. The first describes the number of jobs obtained by Indians and Metis in G.C.O.S. and Syncrude plant construction, and the efforts of Canadian Bechtel and Syncrude to integrate native Canadians into their labour forces. The second details the continued high level of unemployment and under-employment of native Canadians, and the poor living conditions in the Indian and Metis communities in the region. In fact, there is truth in both stories, but neither is complete without the other. On the one hand, suitable employment opportunities for much of the indigenous population remain limited, and there is less government attention being paid to the smaller native communities than to rapidly growing Fort McMurray. Alternatively, the large firms involved in oil sands development are making some efforts to employ Indian and Metis workers, with the encouragement and/or prodding of native organizations and government agencies.

In the larger Athabasca region, the major native community is still Fort Chipewyan, over 200 km north of Fort McMurray and with a total 1979 population of around 1500. Fort McKay, situated less than 20 km north of the Syncrude plant, had a 1979 population of around 200, and Anzac (about 40 km south of Fort McMurray) had around 150 residents in 1978. Over 90% of the residents of the two larger communities and around 80% of Anzac residents were of Indian or Metis origin (Hobart et al., 1979:23-27). Native Canadians still constituted a majority of the residents of Fort McMurray in 1963 (700 of 1300 according to Assheton-Smith, 1979:8), but by 1975 they were a very small minority. Hobart et al. (1979:38) suggest there may not have been many more than 400 adults of Indian and Metis origin in the community at that time. Assuming about 60% of the 1975 population of around 13,000 were adults, this would mean that about 5% of the adult population were native Canadians. Since 1975, the community's population has more than doubled but there is no reason to believe that the percentage of native Canadians has increased. Fort McMurray has become a non-native community while the smaller centres continue to be inhabited primarily by Indian and Metis families.

The standard of living of most Fort McMurray residents is considerably higher than that of the inhabitants of communities in the rest of the Athabasca region. Various economic indicators quickly demonstrate the difference. The unemployment rate in Fort McMurray in 1976 was 5.6% compared to around 21% in the region surrounding the town (Nichols and Associates Ltd., 1979:62,83). Between 1967 and 1976, average incomes (of those employed) in the region around Fort McMurray averaged between 80% and 90% of the provincial average. At the same time, Fort McMurray average incomes ranged between 13% and 25% above provincial averages (Nichols and Associates Ltd., 1979:120-123).[33]

Looking at specific communities we find that Fort Chipewyan still has a large number of residents who make a seasonal living from trapping and fishing, but incomes from these traditional vocations are limited and unstable. In official terms, over 80% of the native labour force in 1978 was unemployed (Hobart et al., 1979:77). There are only a few salaried jobs in the community so individuals must leave to find permanent wage-labour. Fort McMurray has attracted some workers and their families, but the distance separating this larger white settlement and Fort Chipewyan makes this a relatively unattractive option. Despite this, about 180 Fort Chipewyan residents were apparently living in Fort McMurray during the summer of 1978, although we do not know how many of these (possibly seasonal) migrants were employed (Hobart et al., 1979:72).

Most adults in Fort McKay have had some experience with wage labour. Construction work (including G.C.O.S. and Syncrude construction), fire-fighting and forestry work are the typical types of jobs which residents have held (Nichols and Associates Ltd., 1979:87-88), but trapping still provides part of the income of some residents. Thus, residents have participated in the industrial work force, but most remain unskilled. In 1978, 45% of the community's labour force was unemployed (Hobart et al., 1979:78). The earlier Syncrude construction era provided some employment opportunities, since the plant is less than 20 km away, but it also generated some ugly racial disturbances as carloads of construction workers occasionally appeared in Fort McKay, their occupants annoucing that they had come to "fight Indians." (Hobart et al., 1979:153).

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[33] The very apparent difference in employment and income levels between the native and non-native communities reflects the stratified social structure of northern Alberta in general. For example, between 1971 and 1981, the labour force participation rates of non-natives in northern Alberta have been between 60% and 63%. For native Canadians, the comparable rates have been between 40% and 43% (Co-West Associates, 1981:72). A 1975 survey of the native Canadian labour force in northern Alberta by the Alberta Native Development Corporation showed that about 80% of Indians and Metis in the region were unemployed, and that over one-third of the employed were working in part-time jobs. Less than one-third of the total had completed grades between 10 and 12, and most had worked only in unskilled jobs.

Anzac is the smallest of the three major native communities in the region. Its residents appear to have somewhat more stable employment with about 25% of the small labour force working at Suncor or Syncrude, about 14% working as labourers or trappers, and a further 11% reporting self-employment in 1978 (Hobart et al., 1979:73). Thus, the level of unemployment appears to be somewhat lower than that found in Fort Chipewyan and Fort McKay.

The Alberta Native Development Corporation (1975) reported that 76% of Indians and Metis labour force members *in Fort McMurray* were unemployed at the time of their 1975 survey, but also that over 70% were interested in further job training. Littlejohn and Powell (1981) interviewed a non-random sample of 180 Indian and Metis residents of Fort McMurray in 1980. Their sampling design compared 90 unemployed workers with 90 that were employed (30 in Suncor, 30 in Syncrude, and 30 in other local firms) so the results cannot be used to estimate unemployment levels. However, the researchers' goal was to investigate the integration of native Canadian workers into the local labour force, with "integration" defined as steady and satisfactory employment over the previous three years (1981:7). Littlejohn and Powell (1981:xv) conclude that: ".... the majority of the employed could not be termed successfully integrated because of unstable work histories and the fact that their jobs were unskilled and provided poor prospects for long-term employment."

In short, examination of labour force participation rates, unemployment rates, and skill and training levels of the native Canadian population in the Athabasca region leads to a rather bleak conclusion: Indians and Metis residents of both Fort McMurray and surrounding communities appear to be only marginal participants in the oil sands economy. In addition, typical living conditions in the outlying settlements are far from equal to those in the much more developed Fort McMurray. The provincial government has invested heavily in improving the service infrastructure and housing supply of Fort McMurray.

Similar attention has not been paid to the smaller native communities in the region.[24] Secondary information on the standard of living enjoyed by Indian and Metis residents of Fort McMurray is unavailable except for occasional accounts of native squatters being evicted as the town grew rapidly in the 1970s (Van Dyke and Loberg, 1978:126).[25] Thus, it is not difficult for observers to conclude that, despite efforts to incorporate the indigenous population into development schemes, native Canadians have not benefitted from oil sands development (Pratt, 1976:114).

These efforts to include native Canadians constitute the other side of the story of native Canadians and oil sand development. We find relatively little solid information from the G.C.O.S. construction era. Nichols and Associates Ltd. (1979:92) cite an unpublished source which claimed that up to 26% of the construction labour force (i.e., up to 600 individuals) were native Canadians, but this total is not substantiated elsewhere. Mair (1967) reports that, by spring of 1967, about 120 graduates of a local trades training school had found construction employment. He implies that most of these individuals were from the community and that many were native Canadians, but the actual number and the duration of their employment is unknown.

In the Syncrude construction project, according to Nichols and Associates Ltd. (1979:92), "native labour participation averaged about 10%, and reached a peak in 1976 of 600 to 700 persons." These researchers do not provide the source of this information but an October 1976 Western Miner article describing the Syncrude construction workforce states: "So far, well over 500 natives have been employed in various stages of construction" (p. 45), and then later adds: "As many as 800 native construction workers have been employed on the Syncrude Project ...." (p. 49). Since a peak of around 700 workers in 1976 is not the same as a total of 500 to 800 by 1976, it is difficult to confidently accept the 10% average figure provided by Nichols and Associates Ltd.

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[24] Some of the grievances of Fort McKay residents include the loss of trap lines to logging and oil exploration, the pollution of the Athabasca River (which provides drinking water) by oil spills from Suncor, and the lack of permanent jobs. Some of these concerns surfaced in a June 1981 disagreement between residents and Canstar which wished to construct a road to its oil sands lease further north. A similar disagreement led to the blockading of the road through Fort McKay by residents in January of 1983. Residents argued that heavy logging trucks passing through the village were dangerous, but also that this was just one further example of the destruction of their way of life as development of the region's timber and oil resources proceeded with few benefits for the indigenous population.

[25] The most publicized case was the 1981 eviction of a Metis family from their home of 25 years. Northward Developments (Syncrude's housing company) had an agreement with the city to develop the land on which the dwelling stood for a park. The father of the family was jailed for six hours as his house was demolished, and he was subsequently fined $100 for assaulting a bylaw officer who took part in the eviction (Edmonton Journal, 1981a; Goyette, 1981).

Nichols and Associates Ltd. (1979:92-93) report that since around 1975 the Suncor workforce has included close to 10% native Canadians. However, a 1980 newspaper account states that Suncor was employing a total of 70 Indian or Metis workers (Edmonton Journal, 1980) which translates into less than 5% of the total workforce of 1500. In 1979, about 5% of Syncrude's operations workforce were of Indian and Metis origin. Hobart et al. (1979:75) state that in May of 1978, 8% to 10% of the Syncrude workforce were native Canadians. In June of 1982, approximately 270 native Canadians were working for Syncrude (according to a tour guide) which translates into about 7% of the firm's Fort McMurray workforce of around 3500. Some of these 270 jobs were seasonal in nature (e.g. cleaning the tailings pond). Thus, there is enough information to conclude that the two dominant firms are hiring Indian and Metis workers. These sources of information do not tell us about skill levels of these native Canadian labour force participants, but the Littlejohn and Powell (1981) survey of employed and unemployed Indian and Metis residents of Fort McMurray suggests that most are employed in low skill, low paying jobs. Similar conclusions were drawn by the researchers who undertook the 1975 Alberta Native Development Corporation study of Indian and Metis in the labour market. Also, it is possible that some fraction of these workers are from urban areas further south in the province, where they may have acquired additional training and job experience. Both Suncor and Syncrude have been more successful in hiring native Canadians from other parts of the province than from the immediate region (Van Dyke and Loberg, 1978:131; Nichols and Associates Ltd., 1979:93).

The Syncrude plant construction appears to have set some affirmative-action precedents in the area of native Canadian hirings (Littlejohn and Powell, 1981:43). An agreement was signed between Syncrude, the Indian Association of Alberta, and the Federal Department of Indian Affairs and Northern Development stating that Syncrude would try to train and hire as many Indian workers as possible and also try to contract work to native corporations where possible (Littlejohn and Powell, 1981:42; Western Miner, 1976:49). Canadian Bechtel was also active in this regard. Two members of its labour relations team were of Metis background, and in 1977 the construction company was given official recognition for its efforts by Native Outreach (Western Miner, 1978:9). Syncrude and Bechtel, together with Native Outreach and government agencies at provincial and federal levels, organized 5-week industrial training courses at Keyano College in Fort McMurray. Graduates were allowed to immediately join the appropriate union and apply for work at the construction site. Most of the 600 graduates were native Canadians (Nichols and Associates Ltd., 1979:93), and Bechtel hired about 90% of them. However, not that many of the graduates were from the immediate region and not many of these obtained long-term employment (Littlejohn and Powell, 1981:40). In addition, about one-third of the 500 graduates of Bechtel's Edmonton-based welding school were native Canadians (Western Miner, 1978:9; Parkinson et al., 1980:49). In this case, it is again possible that a substantial number of the Indian and Metis construction workers and trainees were not from the Fort McMurray area but rather from urban areas further south.

Syncrude's efforts in its operations era have included hiring four native Canadian employment counsellors, and providing job counselling to Indian and Metis workers and short "native awareness" courses to managers (Syncrude Canada Ltd., 1978d). Some contracts have been awarded to native corporations. The largest was a 5-year contract worth $1.8 million with the Goodfish Lake Development Corporation to set up a dry-cleaning plant on the Whitefish Lake reservation near St. Paul (Syncrude Canada Ltd., 1978a). In this case, again, local residents appear to be less involved than are native groups further south. Syncrude has allowed innovative work schedules such as the seven-day rotation shift worked by Fort Chipewyan residents contracted to clean the tailings pond. The firm has also provided funds to native groups for non-work related projects such as publishing a Metis history textbook for schools (Syncrude Canada Ltd., 1978b).

Suncor has either been less active in affirmative action programs or less active in publicizing them. Recently the firm agreed to provide 20 jobs (from a total of 80) in overburden removal in its mine expansion to local native Canadian workers (Edmonton Journal, 1982c). This promise of short-term jobs appears to have been part of an agreement which involved promises of expansion and investment from the firm and of royalty and tax concessions from the government.

In summary, the total picture of native participation in the Fort McMurray labour market includes a recognition that some Indians and Metis have received industrial training and found employment, and that various firms, native organizations, and government agencies have made efforts to increase such opportunities. Alternatively, it is impossible to conclude that the indigenous population have been equal participants with non-native migrants in the development of the oil sands. The continuing high levels of native unemployment, the history of employment in primarily unskilled and temporary positions, and the standard of living of most residents of native communities point to the opposite conclusion. It is not that one of these two assessments is false. There is a fairly large number of Indian and Metis inhabitants of the region. The local labour market has been characterized by high levels of turnover (especially during the construction eras) and has attracted native Canadian workers from further afield. Thus, it is not contradictory to conclude that relatively large numbers of individual Indian and Metis workers have participated but that these groups have also been lesser beneficiaries of development.

The relatively low priority governments have placed on improving living standards and employment opportunities in northern Alberta communities other than those central to the oil-based economy is not unexpected. More people live in Fort McMurray, and they are typically better educated, more vocal and more organized. In addition, Fort McMurray's economic contribution to the province is clearly of a much larger order. As has been argued for other northern Canadian settings, a calculus including social costs and benefits as well as those of the economic variety would have to be used to justify government investments in many northern native Canadian communities (MacMillan et al., 1975). The low level of participation of Fort Chipewyan residents in the Fort McMurray labour market can be partially explained by the distance separating these two communities. Taking regular employment with Suncor, Syncrude or any other local firm would require migration and settlement in a new and very different community, or some form of a work rotation system. Obviously, some Indian and Metis families from Fort Chipewyan and from less isolated communities have made this choice and, yet, observers conclude that most native Canadian workers have not been fully integrated into the local labour market (Littlejohn and Powell, 1981). The question then becomes: what specific barriers stand between native Canadians and equal participation in Fort McMurray's oil-based economy?

H. Summary

Fort McMurray has a longer history than do many Canadian resource towns, its resource base has changed over time, and it has become a two-company town but, in some other respects, it is a typical single industry community. Its recent rapid growth is a product of demand for the oil which can be extracted from the oil sands in the region and its future is dependent on continued demand for this staple product. The oil industry is clearly dominant locally and employment opportunities in other sectors are contingent on the health of this primary sector.

While Fort McMurray has gone through more than one construction boom, the social disorganization experienced during these eras has been similar to that observed in other boom towns. Thousands of construction workers (mostly male and single) were followed by thousands of families migrating for the employment opportunities provided by the large new mines and oil extraction plants. It appears as if the prospect of financial gains was a primary motivation for many migrants. Turnover rates were initially very high for the construction firms and for both firms involved in oil sands processing, but these rates have come down as the construction eras were succeeded by less chaotic operations eras. Over a period of two decades, Fort McMurray has grown from a town of approximately 1000 residents to a city with a population exceeding 33,000.

Early small-scale efforts by local entrepreneurs to develop the oil sands were only partially successful. The techniques used to extract oil in limited quantities were known some time before economically successful exploitation of the oil sands began. When the Albertan government invited the major international oil companies to develop this resource, and when world oil prices apparently made this a profitable enterprise, the first large mine and plant was built. By the time the second plant began operating in 1978, it was clear that a very powerful capital-intensive industry with firms primarily owned by multi-national oil companies, had replaced a much smaller and labour-intensive oil industry. In addition, prior to this modern era the state had been relatively uninterested and uninvolved. Today, the provincial and federal governments are very involved locally as part-owners of the dominant firms and also as employers in the public administration sector. Thus, Fort McMurray's single industry may be more capital intensive, powerful and profitable than the single dominant industries in most other contemporary Canadian resource towns. We might also conclude that the state has been more involved in the development of this town and in its oil industry than has been the case in other Canadian towns of single industry.

Like other towns of this type in Canada, the occupational structure is not very diversified, but the size of the community, the large public administration sector, and the nature of the technology employed by the oil companies probably make this difference less severe. There is a considerable amount of evidence that women are not equal participants with men in the local labour market, as is typically the case in resource towns. And, like other such communities in Canada, Indian and Metis residents of the region have not benefitted as much from resource development as have non-native migrants. Such a conclusion is warranted despite the affirmative-action programs instigated by governments and native agencies, and accepted by the major construction and oil firms. The extent of the gender and race-based inequalities, and the manner in which they are perpetuated, have not been extensively studied.

Unlike the resource towns described by Lucas (1971), occupation seems less important than does industry as the basis of social stratification in Fort McMurray. During construction booms, employment in the construction industry appeared to be more financially rewarding than employment elsewhere. In the operations era, employment with the oil companies versus employment in all other industrial sectors seems to be the major stratifying distinction. However, a large number of questions remain about the nature of these two parallel hierarchies. While there is some evidence that incomes are higher and benefit packages are more extensive in the oil sector, the details of these differences are unclear. Nor do we know much about variations within these sectors by occupation, gender and social class. There has been no research on occupational mobility accompanying and following migration to this town, and on whether employment in the dominant oil industry enhances these opportunities. Similarly, research is lacking on differences across communities and across sectors within this community in workers' job satisfaction and work attitudes. The utility of social class as an explanatory construct in some of these areas has not been explored, nor has the question of whether class consciousness could develop in such an affluent but segmented community.

In this chapter, the substantial amount of descriptive information about Fort McMurray's recent rapid growth, and the lesser amount of historical information about the community and the region have been introduced. When presented in such a manner, it is apparent that Fort McMurray resembles other Canadian single industry communities in many respects, but is also unique in others. It is also apparent that, like the general literature on Canadian resource towns, social science research on Fort McMurray has remained primarily descriptive. It has also largely ignored many stratification and work-related issues. It is accepted that economic motivations influenced migrants, for example, but the questions about whether migration actually benefitted those choosing it, or whether such benefits were differentially distributed, have not really been addressed. Finally, those stratification and work-related questions which have received some research attention have not been examined from within a theoretical framework that systematically links historical processes of community and industrial change with contemporary individual-level experiences.

Bowles (1982:7-9) cogently argues that studies of big industries in little communities must begin with a framework which focuses first on the larger political economy aspects of resource development, and which then examines the effects of these larger processes on the social structure of the community and, finally, on the life experiences of resident individuals. He takes as his model C. Wright Mills' (1970:6) statement that the greatest challenge to sociology is to "grasp history and biography and the relations between the two in society." In chapter four I will introduce the labour market segmentation framework which allows us to make such linkages in this study. It is a perspective that appears capable of synthesizing the many substantive concerns and questions which have been noted in this specific look at Fort McMurray, and in the earlier more general examination of other Canadian resource towns.

IV. Labour Market Segmentation Theory and Research

A. Introduction

The labour market segmentation model is discussed in this chapter. Although this approach to analyzing capitalist industrial society originates in economics rather than in sociology, its basic ideas are being incorporated in a growing number of studies in the areas of stratification, complex organizations, and industrial sociology. The following review of recent segmentation research demonstrates the ability of the model to improve our understanding of these subjects.

The labour market segmentation model is also a useful theoretical framework from within which to continue this study of work and social stratification in a Canadian resource town. Reviews of the single industry community and social impact research literatures, and of the research on Fort McMurray itself, revealed the absence of an adequate theoretical model. I argue below that the segmentation model can help organize and explain the available information on work and stratification in this commuity. The model is also a source of further important hypotheses for the subsequent analysis of individual-level survey data. The segmentation approach is useful because its central concerns – the unequal distribution of employment opportunities and rewards, and the consequent attitudinal outcomes – parallel those of this study.

The chapter begins with a general overview of the labour market segmentation thesis, followed by a more specific and selective review of "dual economy" and "internal labour market" research orientations. I then attempt to incorporate several additional sociological research topics into the model. After noting some of the criticisms of the segmentation approach, I discuss the explanatory utility of the model in the Fort McMurray setting, as well as the value of this resource town as a research setting in which to test hypotheses derived from this model.

B. How Many Labour Markets?

The "discovery" in the 1960s of widespread urban poverty and underemployment led to a reassessment of orthodox economic models of the American labour market. Individualistic human capital models (e.g. Becker, 1964) were unable to account for persistent patterns of inequality, particularly between men and women, and between blacks and whites. In general terms, blacks and women appeared to receive smaller returns in income and job security for equivalent "investments" in education and job experience. Researchers continue to demonstrate that human capital theory is inadequate in this regard (England, 1982; Beller, 1982; Merrilees, 1982), but the early evidence of structured inequalities in American society is usually acknowledged as the instigating "problem" for segmentation models of labour market processes (Piore, 1975a:126; Hirsch, 1980:134; Kreckel:1980:533; Hodson and Kaufman, 1982:728; Clairmont et al., 1983).

Central to such arguments is the proposition that in contemporary western industrialized societies several distinct labour markets operate simultaneously (Averitt, 1968; Gordon, 1972; Bluestone et al., 1973; Edwards et al., 1975; Gordon et al., 1982; Clairmont et al., 1983).[26] Work experiences and rewards differ significantly between the preferred and secondary labour markets, members of specific population sub-groups (e.g. women and non-whites) have higher probabilities of participating in the disadvantaged secondary market, and substantial barriers inhibit movement from the secondary into the primary market. This latter proposition is critical. The existence of preferred and disadvantaged arenas of employment is not necessarily damaging to human capital or other classical models of labour market operation. Proponents would simply explain that differential allotments of skills and abilities, and differential investments in training, are determinant of labour market position for individual workers. However, dual economy and segmented labour market theorists argue that structural barriers inhibit the free flow of many qualified individuals into the more advantaged labour market(s). In addition, some researchers in this group attempt to explain the origin and historical development of this segmented industrial structure. Labour market models of the orthodox variety are more likely to focus only on labour market processes, accepting the structural features of the market as given.

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[26] Following Kalleberg and Sorensen (1979:351), I define a labour market in a general way as an arena "in which workers exchange their labour power in return for wages, status, and other job rewards."

There are two fairly distinct research traditions in this literature (with several varieties of emphasis within each). The first has a radical economics parentage and focuses primarily on the evolution of dual economic sectors as north American capitalism has changed over the last century (e.g. Gordon, 1972; Edwards et al., 1975; Edwards, 1979; Gordon et al., 1982). Researchers have moved on to examine differential work rewards and work experiences in these separate sectors. The second tradition began with a less clearly defined ideological position and a much narrower emphasis on within-firm or within-establishment labour market dynamics (e.g. Doeringer and Piore, 1971; Piore, 1975a, 1975b). Researchers using this approach have compared the career mobility opportunities and job rewards available in different labour markets, and have discussed the institutional barriers which inhibit workers' mobility across such a pattern of segmented labour markets.

Various attempts have been made to merge the broader, historical approach of the "dual economy" perspective and the narrower, organizational analysis of the "internal labour market" orientation. Hirsch (1980) has argued that these research literatures can be distilled into a single consistent theoretical framework. He proposes that:

> ....the dual labour market approach may form a preliminary model for studying the relationships between two of sociology's most important subdisciplines - social stratification and complex organizations. (Hirsch, 1980:133).

Others, however, disagree with such claims (Cain, 1976; Hodson and Kaufman, 1982). The possibility of such an integrated theoretical framework is discussed in the following section.

C. Dual Economies and Internal Labour Markets

Monopoly Capitalism and Dual Economies

The most central proposition of dual economy expositions is that an earlier era of competitive capitalism in western industrial societies has been succeeded by an era of monopoly capitalism. The Marxist roots of the argument appear in the explanation that the dynamics of capitalism force an inevitable concentration and centralization of capital (Hodson and Kaufman, 1982:729). While employing Baron and Sweezy's (1966) generic term "monopoly capitalism", dual economists in fact argue that oligopolistic ownership and control structures have developed in key industrial sectors. In other words, a few large and very powerful, often vertically integrated and seldom very competitive corporations are dominant in these sectors. Because of their limited number they can exert control over suppliers and markets. Because of their size and strength they can more effectively control their environment, particularly via influence on the state.

The concept of a "dual economy" originates in the observation that alongside the core industrial sector is a secondary or periphery sector composed of the many remaining minor industries. While a few large, powerful, and non-competitive corporations operate in the former, many smaller and more competitive corporations and small businesses are taking risks in the latter.[27] It is argued that the core exemplifies the monopoly capitalism mode of production while the periphery still operates within a more competitive mode.

If the logic of capitalism is such that concentration and centralization of capital are unavoidable, the eventual result should be oligopolistic control structures in all industries and, extrapolating further, complete concentration of capital. Dual economy models are not particularly clear on the issue of whether the competitive sector is a "left-over" from an earlier era and, thus, in a state of continual decline. Some proponents appear to have incorporated a neo-Marxist assumption to explain the continued co-existence of dual economies. As Hodson and Kaufman (1982:728) note, a dependency relationship is sometimes specified between the two sectors. This could help explain the relative stability of a two-sector capitalist economy. Core sector firms can extract profits from secondary sector firms and can demand lower prices for products purchased. The former can sub-contract work to the latter, particularly if such work would not be acceptable to unionized employees of larger oligopolistic firms, or if such work could be obtained for less cost in the secondary sector. In addition, the secondary sector serves

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[27] Bluestone et al. (1973:30-31) describe a third "irregular economy" which encompasses the difficult to measure but presumably huge number of economic transactions occurring in informal work arrangements and in illegal work. Beck et al. (1978:10) discuss several alternative sectoral classifications including those based on the useful distinction made by O'Connor (1973) between monopoly, competitive, and state sectors. The latter would include direct state productive activities and production contracted by the state. However, the simple two-sector core-periphery model is employed most frequently.

as a reservoir of labour from which the more qualified workers can be temporarily drawn when needed (Clairmont et al., 1980:293). Hence, as dependency theorists argue that core nations can exploit economically dependent peripheral nations (Frank, 1966; dos Santos, 1970; Amin, 1976), the dual economy model could be elaborated to propose an unequal exchange relationship between corporate actors in the two sectors. Gordon et al. (1982:191) present this position most clearly, although they do not conclude that this segmented economic structure is static and unchanging.[28]

Bluestone et al.'s (1973:28-9) frequently cited summary of sectoral differences (which ignores the public sector) identifies durable manufacturing (e.g. automobiles and steel), construction, and extraction (e.g. mining, petroleum) industries as central in the core sector. Firms in these industries "are noted for high productivity, high profits, intensive utilization of capital, high incidence of monopoly elements, and a high degree of unionization" (Bluestone et al., 1973:29). We should also include high corporate stability and low inter-corporation competition as sector characteristics since they are the defining criteria of the core (monopoly) sector. Other industries which should probably be included in this group are those specializing in the manufacture of armaments and military technology, and communication/computer technology industries. Both have expanded rapidly in the last decade and in both a few very large firms are dominant.[29]

Capital intensive core sector industries, by definition, require fewer workers to equal the productivity of more labour-intensive industries. Such core industries with large investments in modern technology can also not afford to have the productive process shut down because of labour disputes. In addition, employment of higher technology requires a larger investment in the training of workers. The combination of these factors, along with the higher profits enjoyed by core sector firms, lead to the typical provision of better wage and benefit packages, more secure employment, and better working conditions for workers in core sector firms. The firms can afford to pay more because of higher profits and relatively smaller work forces. They would wish to do so to reduce labour turnover and to avoid labour unrest. In short,

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[28] Gordon et al. (1982) examine a longer historical period (1820-1980) and attempt to show how, in a model of "long swings and stages of capitalism", the present segmented industrial structure is a product of a third stage of capitalist development. They would argue that the various dynamic forces of capitalist development would continue to alter the social relations of production. They do not make specific predictions, but conclude that "the structure of segmentation has begun to decay" (1982:226), although segmentation in some form will continue for some time.

[29] O'Connor (1973) might include the "defence" industry in his "state" sector because of the large amount of state-contracted production, but we can as easily call this a core industry with the explanation that assured state contracts guarantee profits and corporate stability.

> .... the large capital sector has the ability to set prices, create markets, control the supply and costs of raw materials, influence the state, and socialize the costs of production. Production is large scale and capital intensive, markets are national and international in scope, profits are high, wages are high, and workers are heavily unionized. (Hodson, 1978:430).

The basic dual economy typology places non-durable manufacturing, retail trade, agriculture and sub-professional services among the industries in the periphery (competitive) sector. These industries are "noted for their small firm size, labor intensity, low profits, low productivity, intensive product competition, lack of unionization, and low wages (Bluestone et al., 1973:29). Family or single individual controlled firms are common, technology is less advanced, and markets for products are seldom wide-spread (Averitt, 1968:7). Competition between economic actors (individuals or firms) is high and business failures are more likely because these actors have less control over their environment, have less influence on the state, and are thus forced to take more risks.

Because of their smaller profit margins, competitive sector firms cannot afford to pay as well ~~as do~~ core sector firms. They also cannot afford to provide long-term employment security to workers since they have less control over suppliers and markets than do core sector firms. Alternatively, the nature of their production and of their technology typically requires little training of workers. Therefore, the costs of retraining if workers quit or are laid-off are minimal. In addition the nature of the work and of the technology are such that working conditions are generally less satisfactory than those found in core sector firms. Thus, turnover is high. In some secondary sector industries, seasonal or part-time work is common.

Work rewards and experiences differ by sector but so does the distribution of population sub-groups. In the U.S., blacks have been and remain likely to be employed in the periphery sector (Baron and Hymer, 1972; Baron, 1975; Bonacich, 1976; Gordon et al., 1982:206-10). Other racial minority groups in the U.S. (e.g. Chicanos) and in Canada face similar employment prospects. The research on work experiences of Canadian Indians and Metis (see chapter two) clearly shows that when members of these groups are in the labour force, it is very likely that they are working in the periphery sector (Economic Council of Canada, 1982:11, 88). Peter Li (1982) describes employment histories of prairie Canadians of Chinese origin in a similar manner. While female labour force participation rates have increased dramatically in both Canada and the U.S. (Lowe and Krahn, forthcoming), women are still much more likely to be employed in the secondary sector (Stevenson, 1975; Kreps, 1976; Chiplin and Sloan, 1978; Lowe, 1980; West, 1982; Economic Council of Canada, 1982:35; Gordon et al., 1982:204-6; Armstrong and Armstrong, 1983:10). Recent migrants are over-represented in secondary sector jobs as are students and young people in general. For members of this latter group, however, secondary sector employment is often a temporary phase unless, of course, they are non-white or female. Then the probability of remaining in this sector is higher.

Organizational Analysis and Internal Labour Markets

Initial "internal labour market" research focused on the restricted labour markets which exist within some firms or government agencies (Doeringer and Piore, 1971; Piore, 1975a, 1975b). Workers in these labour markets enter at low level "ports of entry" but can work their way up the organizational hierarchy through "job clusters" and "mobility chains" (or "career ladders"). Upward movement is accompanied by improvements in income, job status, and job security, and by increases in responsibility. Often unions are stable components of the social relations of production and their contracts further guarantee job security. Firms and government bureaucracies with internal training systems and seniority progressions remain closed to all employment seekers but those few who are brought in at lower levels.

This line of research has been continued by those who examine occupational segmentation (Stolzenberg, 1975; Smith, 1983; Finlay, 1983) as well as by those who focus on career paths within firms or state bureaucracies (Spilerman, 1977; Grandjean, 1981). Researchers in this tradition have seldom grounded their analyses within a larger historical economic perspective, preferring instead to focus directly on the organization they are examining. But their work frequently has been incorporated into the broader dual economy model. Labour market segmentation theorists have proposed that large oligopolistic, core sector firms are more likely to contain internal labour markets which provide workers with opportunities for training and upward occupational mobility. Alternatively, systematic career paths are seldom found in the secondary labour markets of the peripheral economy. Thus, the micro organizational analysis of the internal labour market tradition has been merged with the macro economic analysis of the dual economy tradition. The combined model proposes that workers in the internal labour markets of the core sector have better incomes and fringe benefits, more secure employment, better working conditions, and more training opportunities. They also have more opportunities for upward occupational mobility (Horan, 1978:540; Hirsch, 1980). Such opportunities are more common in the core sector since it essentially contains a large primary labour market composed of many distinct internal labour markets (Kalleberg and Sorensen, 1979:359). Therefore, only in the core sector would we expect to find support for the human capital hypothesis of education positively affecting status attainment (Beck et al., 1978:707; Edwards, 1979:170; Hodson and Kaufman, 1982:731).

A number of segmentation writers have further distinguished between the "independent primary" and "subordinate primary" levels of employment within the primary labour market (Piore, 1975a; Edwards, 1979; Gordon et al., 1982:202). The subordinate tier contains primarily blue-collar industrial workers and unionized workers in other core sector firms. The independent primary tier contains a variety of managerial, professional, and crafts workers whose jobs typically involve more general skills, educational credentials, more individual control, and less monotony. Unions would be relatively uncommon in this tier. Consequently, educational credentials and ability should be more important predictors of upward mobility within the independent primary tier, while union seniority rules (and thus job experience) should be the major determinant of mobility and status attainment in the subordinate primary tier (Osberg et al., 1981:385).

The initial selection process whereby individual workers find employment in core or periphery sectors is obviously influenced by a variety of factors including age, gender, race and immigrant status. Minimum levels of education and training are required for employment in many core sector firms. Information on core sector employment and on the proper channels through which to pursue such employment may not be equally distributed. The region in which one lives can affect the probability of finding core sector employment, if core sector firms are concentrated within specific regions as is the case in

Canada (Cuneo, 1978; Phillips, 1978). But a critical proposition in the model is that upward across sector mobility by individual workers is difficult (Tolbert, 1982; Jacobs, 1983; Clairmont et al., 1983:261).[30]

Barriers to mobility across sectors include discriminatory hiring practises in some cases, but the difficulties encountered by peripheral sector workers trying to move upward are even greater. The inadequate education and insufficient resources which may have initially placed an individual into the peripheral economy will also restrict movement out of it. So too will an unstable work history acquired in this sector as well as any unacceptable work behaviours learned there. Union membership requirements are frequently inhibiting factors. A lack of access to information on employment opportunities can restrict across sector mobility as can the inability to migrate to better employment if one's own locale offers only peripheral sector jobs (Grusky, 1983:503). Equally important, of course, is the fact that internal labour markets often provide only a limited number of entry positions. Bluestone et al. (1973:30) conclude that "the working poor are trapped in the peripheral economy." The Marginal Work World research team in maritime Canada concur when they state that participants in the secondary labour market are trapped "in a succession of low wage, dead end jobs interspersed with spells of unemployment" (Osberg et al., 1981:388). Despite such emphatic conclusions, only a few tests of this inter-sectoral mobility hypothesis exist (Kalleberg and Sorensen, 1979:367), and there is still a debate about how a proper test should be designed.[31]

If, however, the secondary sector functions as a labour reserve for the core sector, increased opportunities for across sector mobility should appear in times of economic expansion and rapid growth (Bluestone et al., 1973:31). In a study which provides support for the hypothesis of limited across sector mobility, D'Amico and Brown (1982:169) do show that the probability of periphery to core movement is higher for the young and in times of economic expansion. We might also hypothesize further that migration to regions of core sector growth could increase an individual's chances of across sector mobility. The probability of such movement might be even higher if skilled labour was in short supply in such regions. Such an hypothesis has not been tested, although Clairmont et al. (1980:295) suggest that intra- and inter-regional migration seldom allows movement out of the periphery sector.

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[30] Downward mobility across sectors can be explained by a "casualty" model as in the human capital perspective: individuals who can no longer compete at a given level would be expected to drop to a lower level. However, the working dynamics of internal labour markets are such that the dangers of downward mobility are minimized. Individuals may "plateau" at a given level or be moved horizontally when they are no longer productive in a job setting. Such career protection is unavailable in most secondary sector places of work.

[31] Tolbert (1982) uses a large random sample of workers to show that relatively little periphery-to-core movement has occurred in their careers. Jacobs (1983) argues that one should look at only those who have actually changed jobs to test this hypothesis. Tolbert (1983) tests the hypothesis only indirectly in his examination of inter-generational occupational mobility.

Segmented Labour Markets and the Labour Process

"The labour process" is a broad concept which encompasses capitalists' attempts to more completely regulate production, as well as the variety of formal and informal means by which workers attempt to gain control of production and to counter managerial initiatives. Braverman's (1974) classic Labor and Monopoly Capital reintroduced this important area of study to industrial sociology and to Marxist analyses of capitalist development. Early industrial sociologists had examined workers' attempts to gain greater control of the productive process (e.g. Roy, 1952). However, until Braverman's work appeared, little systematic research on this two-sided power struggle in the work place, and on how this conflict had changed as capitalism matured, was available. Since publication of the book, this type of research has been rapidly increasing.[32]

Richard Edwards (1975, 1979) and his colleagues (Gordon et al., 1982) have examined the labour process in contemporary capitalist society in a manner compatible with the segmentation thesis. In his Contested Terrain, Edwards (1979) attempts to portray the changing nature of class struggle in the work place (the "contested terrain") as industrial capitalism evolved. As firms increased in size and market power, as technology was changed, and as workers become more educated and organized, employers also changed their methods of maintaining control over the production process. Strict hierarchial control was replaced by paternalistic management strategies or company unions in some firms. Welfare capitalism and scientific management were other attempts

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[32] Michael Burawoy's (1979) discussion of the "manufacturing of consent" in an industrial workplace is excellent. Equally useful are the various case studies which examine changes within industries (e.g. Stone, 1975; Zimbalist, 1979; Thomas, 1982; Finlay, 1983) or specific job ghettos (McNally, 1979; West, 1982; Sugiman, 1982). Clement's (1981) analysis of the Canadian mining industry, using INCO as the exemplar case, is the most recent Canadian contribution to this literature. A special issue of Canadian Dimension (December, 1979; vol. 14, no.3) contained further useful material.

to adjust to changing times. In some cases, technological changes provided new means of regulating production and producers. Recently, sophisticated methods of bureaucratic control have been introduced to the workplace. Edwards' central thesis is that, today, different types of control of labour are found in the several labour markets formed by the evolution of monopoly capitalism from an earlier more competitive era. Gordon et al. (1982) further document broad changes in the nature of the American work force as capitalism went through several crises in the 19th and 20th centuries, but incorporate Edwards' (1979) typology of control strategies in a contemporary segmented labour market.[33]

These writers claim that the secondary labour market is still largely characterized by "simple" control mechanisms. These may take two forms. Direct control of workers by owners of small businesses in the peripheral economy is still common. In somewhat larger peripheral sector firms, hierarchial control mechanisms with supervisors and foremen operating in their traditional roles, are frequently found. Both of these types of "simple control" clearly display the power differential between workers and owners (or their representatives), and can generate worker resistance.

The subordinate (blue collar) primary sector, according to Edwards and his colleagues, is more likely to have "technical" methods of control in which "power [is] made invisible in the structure of work" (Edwards, 1979:110). Assembly lines which determine the pace and nature of work throughout a plant are striking examples of this type of labour management. While immediate supervisors oversee production, the labour process in total is controlled invisibly and from a distance. Modern computer-controlled assembly lines with automatic feedback systems are a further extension of such technical control of labour.

Edwards (1979) labels the characteristic type of control in the independent primary labour market "bureaucratic control". This system "rests on the principle of embedding control in the social structure or the social relations of production of the workplace. The defining feature .... is the institutionalization of hierarchial power" (Edwards, 1979:21).

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[33] Gordon et al. (1982) argue that the historical transformation of labour can be described in three overlapping stages: initial proletarianization (1820 - 1890) as wage labourers were created out of workers leaving an earlier mode of production; homogenization (1870 - 1940) as differences between groups of industrial workers were reduced and all came to perform semi-skilled work in similar industrialized workplaces; and segmentation (1920 to the present) as three separate labour markets have emerged.

"Company policy" and impersonal rules, highly differentiated jobs in a career line, strictly defined job descriptions and salary scales, bureaucratized evaluation and grievance procedures together organize and control production in this sector. Innovative management strategies which include workers in lower level decision making (e.g. job enrichment, worker self-management) are a further extension of this type of control (Edwards, 1979:155). "Bureaucratic control" together with the greater work rewards, better working conditions, and greater job security in the primary labour market, reduce production uncertainties due to workers' opposition to management. Workers are unlikely to resist because it is profitable not to do so, because advancement is possible and contingent on cooperation, and because they are less likely to conclude that owners and managers are "on the opposite side".

Edwards' (1979) discussion has been criticized for its failure to deal with workers' responses to management initiatives (Haydu, 1981), as was Braverman's seminal work (Zimbalist, 1979:xii). In his subsequent work, Edwards and his colleagues recognize this weakness (Gordon et al., 1982:41) and attempt to describe more of both sides of the class struggle in the work place which has shaped the labour process. Friedman's (1977) discussion of different managerial strategies in core and periphery sector firms is another useful corrective. Like Edwards, Friedman portrays the secondary labour market as the preserve of "direct" methods of control. In the primary market, however, "responsible autonomy" is more often given to workers. The greater autonomy, status, and responsibility, offered in the hope of attracting workers' loyalty, is provided precisely because "worker resistance has clearly forced accomodating changes within the capitalist mode of production" (Friedman, 1977:4).

Segmentation, Job Satisfaction and Class Consciousness

The proposition that the different rewards and experiences of work in segmented labour markets translate into different subjective responses to work is implicit in much of this literature. Despite this, specific discussions of workers' attitudes are hard to find. Gordon (1972:50) predicted that attitudes "will probably differ widely" but noted that "almost no useful research exists on this issue" (1972:125). Piore (1975b) comments on the "discontent" of lower class workers who have monotonous jobs and little chance for upward mobility. Clairmont et al. (1980:307) and Clairmont and Jackson (1980) simply report higher job satisfaction in the central work world but do not really build this dimension of work into their segmentation model. In fact, a job satisfaction hypothesis is almost immediately suggested by the literature reviewed above. In addition, some of the existent research on job satisfaction can be interpreted from a segmentation perspective.

The general hypothesis would be that, controlling on the effects of individual differences (e.g. gender, age, education, seniority, work attitudes), job satisfaction should be highest in the primary labour market. The analyses of Edwards (1979) and Friedman (1977) suggest that primary sector employees would report more satisfaction with work because of a variety of factors (better pay, benefits, working conditions, and mobility opportunities). We might further propose that, within the primary labour market, workers in the independent tier would report more satisfaction than would those in the subordinate tier. This would be expected because of the greater job status, work variety, and work autonomy available in this sector. The caveat – controlling on individual differences – is added because it is possible that not all workers would prefer the type of work available in the independent primary sector.

Blauner's (1964) influential early work examining the effects of technology on worker attitudes can be re-interpreted from a labour market segmentation framework. He argued that variations in technology across industries underlay different methods of organizing work and controlling workers, some of which were more satisfying to these workers. Dual economy theorists also hypothesize different types of worker control in different industries. But they would argue that the primary causal factor is not technology per se, but the profit accumulation dynamic of capitalism: owners and their managers look for more efficient and productive ways of controlling labour. Changes in technology, like changes in management practises, are not exogenous factors uninfluenced by the decisions of those who control the means of production. Recognizing this change in emphasis on final causes, we can still see that Blauner was describing the subjective responses to work of people employed in qualitatively different labour markets. He predicted higher levels of job satisfaction in industries employing process as compared to assembly-line technologies. His textile workers were good examples of workers in a secondary labour market, while both the automobile and refinery workers were participating in the primary labour market.[34]

A segmentation model of job satisfaction could, thus, highlight the effects of technology on worker satisfaction, as did Blauner and those researchers who have replicated and extended his work.[35] Alternatively, it could focus on the increased job satisfaction generated by greater extrinsic rewards of work (pay, benefits, promotions, security) found in core sector employment. A third explanation, which focuses on a specific intrinsic reward of work, follows more directly from the work of labour market segmentation theorists (Friedman, 1977; Edwards, 1979; Gordon et al., 1982). They propose that core firms employ more subtle methods of control, either embedding it in the organization structure, or offering some minimum of job control to workers. This emphasis on managerial initiatives as a causal factor resembles some of the early "human relations" models of management (Mayo, 1933; Roethlisberger and Dickson, 1939), but does not assign causal primacy to the well-meaning and concerned efforts of managers to "involve" workers in the production process. Instead, it emphasizes the amount of control over work which individuals believe they have (Edwards, 1979) or actually have (Friedman, 1977) as the determinant factor: greater control leads to greater job satisfaction.

A basic premise of most recent dual economy theories is that labour market segmentation (i.e. divisions within the working class) inhibits the development of class consciousness. Edwards' (1979:184) conclusion that "[t]he development of twentieth-century capitalism has fractured, rather than unified, the working class" is frequently repeated (Edwards et al., 1975:xii; Hodson, 1978:479; Hodson and Kaufman, 1982:731; Gordon et al., 1982:4; Clairmont et al., 1983:253). This is simply an hypothesis proposing both a reduction over time and a current absence of class consciousness. It is not a prediction of different amounts of class consciousness among workers in different contemporary labour markets. Nor is it a prediction that workers within a specific labour market define their interests in opposition to those of workers in other labour markets. Over a decade ago, Gordon (1972:132) asked: "If there are defineable strata in the

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[34] The printers in their craft-based industry are best seen as a discarded occupational group in the evolution of modern industrial capitalism, an end which Blauner himself predicted (1964:57). Their demise is an example of the "homogenization" trend in the American work force described by Gordon et al. (1982).

[35] See Shepard (1977) for a review of such work, and Archibald et al. (1981) for a critique of Blauner's "refutation" of Marx' theory of alienation.

economy, are respective members of these strata conscious of their common interests?" Few segmentation researchers have attempted to answer this central question.

Gagliani (1981) argues that a new middle class (which he appears to equate with workers in the independent primary sector) is class conscious. But it is conscious that "its interests are best defended through an alliance with the old petite bourgeoisie and capital" (1981:261) rather than with workers in the subordinate primary and secondary labour markets. In other words, participants in the most advantaged labour market seem to have been "bought off" by work rewards and management strategies. They are conscious of their advantages and would not align themselves with working class movements originating in secondary and subordinate primary labour markets.

Gagliani does not discuss differences in the class consciousness of workers in these two lower sectors. An hypothesis about the class perceptions of workers in the subordinate primary sector may be drawn from the "affluent worker" research literature (Goldthorpe et al., 1969). Goldthorpe and his colleagues were attempting to test the "embourgeoisement" thesis: the well paid working class is slowly becoming part of the middle class. Their study of the Luton workers led them to conclude that neither embourgeoisement or proletarianization were occurring. Instead, they described the advent of the "privatised" worker characterized by an absence of communal values, an instrumental view of work (work as a means toward an monetary end), and an absence of class consciousness. Lockwood (1966) compared two varieties of traditional worker – the proletarian and the deferential types – to this new privatised worker whom he described as indifferent to employers and fellow workers. "Lacking close primary ties inside and outside the work situation, at work he is wage oriented and in the community consumption oriented." (Lockwood, 1966:258). [16]

The description of the privatised Luton workers (well paid industrial workers in firms with good labour management relations) matches descriptions of participants in the subordinate primary labour market. The hypothesis incorporated from this "affluent worker" research is that workers in this sector will not perceive their interests to be concurrent with those of secondary labour market workers below them, or with those of the capital/old middle class/new middle class alliance described by Gagliani (1981). Instead, individualistic instrumental work attitudes will predominate over broad class-based work attitudes. Indifference to other workers might, of course, turn into protective attitudes and behaviour if periphery sector workers attempted to move into the advantaged arena of the subordinate primary labour market.

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[16] This typology has not escaped criticism (see Bulmer, 1975), including searches for disconfirming evidence in the traditional industries which Lockwood suggested contained proletarian workers (Moore, 1975; Cousins and Brown, 1975), and arguments that the modern worker looked reactionary only in comparison to an idealized proletarian worker of the past (Davis and Cousins, 1975).

Segmentation theorists have not focused directly on the class consciousness of the less rewarded and less secure workers in the secondary labour market. The fewer work rewards, along with the more open display of power differences which direct and hierarchial methods of labour control allow, suggest that periphery sector workers might be more likely to define their class interests in opposition to those of capital and its managers. This prediction of greater working class consciousness among participants in the periphery seems to be at odds with more traditional expectations of increased class consciousness among industrial workers. However, as segmentation theorists are very aware, such a development has not occurred in north America. It might also not occur in the peripheral economy because firm sizes are small, turnover is frequent and leadership is often absent. Hence, the null hypothesis would be that class-based attitudes would also not develop in the peripheral economy, but for different reasons than those proposed for the lower tier of the primary labour market. Another contrary hypothesis might simply be drawn from Braverman's (1974) deskilling argument: the work performed by all segments of the working class is becoming mechanized, routinized and alienating, leading to no differences in work and class attitudes across sectors of the working class.

Labour Market Segmentation Theory: A Summary

The breadth of the labour market segmentation model elaborated and extended above is reflected in the following list of central propositions. [37]

1. The industrial structure of western capitalist societies has evolved into a dual economy with a monopoly and a competitive sector (some variants of the model further isolate the state sector). The segmented economy continues to change

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[37] The list is derived, in part, from Gordon (1972:44-52), Bluestone et al. (1973:28-31), Hodson (1978), Osberg et al. (1981), D'Amico and Brown (1982), Hodson and Kaufman (1982), and Clairmont et al. (1983).

although the monopoly sector benefits from the existence of the periphery.

2. The monopoly (core) sector contains large and bureaucratic firms with a great deal of market power. These oligopolistic firms are typically technologically advanced, capital intensive, highly productive and very profitable. Core sector firms are more capable of controlling their environment (suppliers, markets, labour organizations and the state). Secondary (peripheral or competitive) sector firms in less concentrated industries reflect the opposite ends of these continua.
3. A primary labour market is located within the monopoly sector while the peripheral sector contains a secondary labour market, that is, dual labour markets are enclosed within the dual economies.
4. Women, non-whites, the young and immigrants are over-represented in the secondary labour market within the peripheral economy.
5. There is greater job security in the primary labour market both because seasonal and part-time work are atypical in core industries (such work may be sub-contracted to periphery sector firms), and because unions are common in this sector. Unemployment, underemployment, and high turnover rates are more characteristic of peripheral sector industries.
6. The primary labour market can be further divided into an upper and a lower tier; workers in the independent primary sector (managers, professionals, and technicians) have more autonomy and variety in their work than do the (blue collar) industrial workers in the subordinate primary sector.
7. Methods of control of labour differ by sector; bureaucratic control and responsible autonomy are more common in the upper tier, and technical control is most typical in the lower tier of the primary labour market. Simple methods of control (direct or hierarchial) are most often found in the secondary labour market.
8. There are substantial structural barriers to mobility between labour markets so little across-sector mobility occurs. Such mobility opportunities may increase in times of expansion in the core sector, and individuals' chances of upward inter-sectoral movement may increase with migration to a region or community where such expansion is occurring.
9. The primary labour market situated within core sector firms is characterized by the

existence of job ladders. These, along with on-the-job training and union seniority rules allow upward occupational mobility. It is here that human capital models may be most relevant since education and job experience can influence upward mobility.

10. The extrinsic rewards of work (incomes and benefits) and working conditions are better in the primary labour market.
11. Job satisfaction would be expected to be highest in the upper level of the primary labour market and lowest in the secondary labour market.
12. Class consciousness might be expected to differ by sector. Independent primary sector workers would be more likely to align with owners and employers. We might predict that subordinate primary sector workers would be more individualistic and instrumental than class conscious in their work attitudes. Finally, periphery sector workers might be expected to define their class interests in opposition to capital.

These propositions are not all treated equally in this study of work and stratification in a resource town. The first seven are examined in varying depth later in this chapter. I refer back to the historical and contemporary information about Fort McMurray which was introduced in chapters one and three, and suggest a segmentation-based interpretation. The last five propositions provide hypotheses for the analysis of individual-level survey data in chapters six through eight. But first a short critique of the segmentation model will be presented.

Labour Market Segmentation Theory: A Critique

Much of the attractiveness of the labour market segmentation perspective is its breadth. This theoretical framework attempts to link research on the development of capitalism, social stratification, complex organizations, the sociology of work, and social mobility within one general model. Beginning with several assumptions about the developmental tendencies of industrial capitalism, the model as outlined above attempts to explain the development of dual economies and dual labour markets within them, the differential distribution of population sub-groups across labour markets, the unequal work rewards and different work experiences typically found in separate labour markets and, finally, the subjective outcomes of participation in this segmented labour market. It is a dynamic model at the structural level (the evolution of dual economies and segmented labour markets) and also at the individual level (the movement of workers into, through, and sometimes between labour markets). Despite its origins in economics, the segmentation model proposes in a classical sociological manner that structural factors affect the life chances of individuals in society (Hirsch, 1980:140; Hodson and Kaufman, 1982:735). In addition, the model is methodologically eclectic, drawing from historical research, classic econometric analyses, and sociological research of several types.

Hodson and Kaufman (1982:732) claim that an inclusive labour market segmentation model, incorporating all of the relevant research, has not been developed (they appear to have overlooked the paper by Hirsch, 1980). They attempt to remedy this with their summary of the literature. In this summary, they note the proposition about the fragmentation of the working class, but they do not put forward hypotheses about the class attitudes of workers in different sectors. They overlook the implicit job satisfaction hypotheses in much of this research, and do not formalize the implicit prediction that across-sector mobility opportunities may increase with expansion of the core sector. Thus, they do not evaluate a complete model as they believe, although many of their criticisms remain valid.

Hodson and Kaufman (1982) also ignore some omissions in this literature which Hirsch (1980) identifies. He points out that researchers have not carefully examined the role of the state in supporting and modifying the trends described by dual economy theorists. Until very recently, labour market segmentation researchers have also not considered the importance of location (region, city, or area of a city) in determining individuals' opportunities in a segmented labour market (Hirsch, 1980:140-2). Grusky (1983) presents one of the first tests of such an hypothesis, with his comparison of status attainment processes in twelve different regions of Japan. Hirsch also attempts to fit a more traditional class model on to the segmentation model but his classification scheme seems little more than a conventional blue collar/white collar/owner typology. A more profitable approach might be to examine the fit between Wright and Perrone's (1977) class categories which are based on ownership and control criteria, and the segmented labour market categorization of types of workers and methods of labour control. Such theory development and research remains to be done. Piore (1975a) suggested that the three labour market segments might contain the lower, working and middle classes, respectively, but did not develop this idea any further.

It is apparent, then, that with breadth of scope we also have variation in depth of discussion and analysis in this research tradition. Some topics have received little attention and some hypotheses remain untested. Alternatively, historical research describing the development of dual economies and segmented labour markets is extensive, as are studies of internal labour markets. Income differences between sectors are found consistently in both Canada (Boyd and Humphreys, 1979; Ornstein, 1980) and the U.S. (Bibb and Form, 1977; Beck et al., 1978; Kalleberg et al., 1981; Zucker and Rosenstein, 1981). Some of the less studied issues may be those which are difficult to examine with historical research or with survey research employing national samples. More detailed localized surveys may be necessary. Parker (1981), for example, used Detroit Area Study data to demonstrate that core sector workers' incomes are less affected by economic recessions than are the incomes of peripheral sector workers.

Hirsch (1980:139) and Osberg et al. (1981:382) both note two key issus which a segmentation model must address: (1) what are the factors which explain the initial allocation of workers to primary and secondary labour markets?; and (2) what are the barriers to mobility across sectors and how much inter-sectoral mobility actually occurs? Jacobs (1983) also emphasizes the central nature of this second question. A number of writers have discussed barriers to mobility (e.g. Gordon, 1972; Bluestone et al., 1973; Clairmont et al., 1980), and others (D'Amico and Brown, 1982; Tolbert, 1982; Jacobs, 1983) have begun to test specific hypotheses about inter-sectoral mobility. There are also existent discussions of how age, education, gender, and race can influence an individual's chances of entering the primary labour market when first joining the work force. But despite the fact that unequal work opportunities for blacks and for women instigated segmentation research, the segmented labour market model still does not fully explain why women and non-whites are over-represented in the secondary labour market.

The segmentation model can explain why individuals who begin their employment career in secondary jobs have difficulty crossing structural barriers separating these from more preferred jobs. It can also explain why less skilled and less educated individuals are often ineligible for primary sector employment. But it does not explain the "initial sorting of minorities into the periphery" (Hodson and Kaufman, 1982:731). Edwards et al.

(1975:xii) write: "The dualistic industrial and labour market structures have interacted with preexisting divisions by race and sex to produce enduring divisions ....." Thus, other explanations of racial and sexual stratification are required to account for these pre-existing divisions (Ornstein, 1982:45). Phillips and Phillips (1983:88-105), for example, present a very useful discussion of the "historical roots of labour market dualism" leading to the over-representation of women in secondary labour markets. Thus, while the segmentation model does not really answer the question "why?", [31] it can guide examinations of "how" women and non-whites are encouraged or pushed into secondary labour markets and discouraged or barred from entering more preferred arenas of employment.

Hodson and Kaufman (1982:734) point out that some studies have actually found higher proportions of women and of blacks in core sector industries. They use this evidence to support their argument that core sector industries or firms can contain secondary labour markets of substantial size. Support for such a conclusion is provided by Bridges (1982:290) who finds greater occupational segregation by gender in industries with greater market power. Other writers have reminded us of the job ghettos (e.g. typing pools) often found within core firms (Gordon et al., 1982:201; Phillips and Phillips, 1983:85), and of the error in assuming a simple one-to-one correspondance between the core sector and primary labour markets (Hodson, 1978:479). Hodson and Kaufman (1982:735) conclude that the assumption of perfect overlap between the core sector and the primary labour is the segmentation model's most serious problem. However, Hirsch (1980:136) notes that this is a probabalistic proposition: primary labour markets are *more likely* to be found in core sector firms. Since most sociological research involves pursuit of probabalistic relationships, we should not demand more rigour of the labour market

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[31] Gordon et al. (1982:174) give several examples of how, in the early 20th century, large American firms deliberately pushed blacks and women into certain types of work in order to facilitate the deskilling and routinization of these types of work. Presumably these groups would be less likely to fight such a change than would white male workers. Edwards et al. (1975:xiv) argue that in the same era blacks and women were frequently brought into specific industries to ward off unionization threats. But this does not really answer the question of why these groups are today over-represented in secondary labour markets. Instead, it tells us that women and blacks were used to turn previously skilled occupations into easier to control routinized jobs. Similarly, Fox and Fox (1983) conclude that female entry into specific occupations has a negative effect on wages in that occupation. This may help us understand how secondary labour markets develop, but still does not answer the question about "sorting" of workers into such a market once it exists.

segmentation model than we do of other theories we test. Evidence that primary labour markets are equally as likely to be found in secondary sector as in core sector firms would force us to divorce the dual economy and internal labour market traditions. Evidence that there is not a perfect association is a warning to researchers to examine the relationship rather than assuming it exists.

A related problem in this research is that of boundary definition: which industries should be designated as core industries and which ones are secondary industries. Historical researchers (e.g. Gordon et al., 1982) describe how ownership has become concentrated in specific industries. Students of contemporary segmentation may cite such studies but seldom work from them when designating sector boundaries (e.g. Beck et al., 1978:706). Zucker and Rosenstein (1981:869) have demonstrated how comparisons of different industry taxonomies "produce inconsistent patterns of results and show a mixed pattern of support for dual economy predictions." Other critics point out that the many industry level characteristics which are presumed to differentiate core from periphery sectors are not perfectly aligned (Kaufman et al., 1981; Hodson and Kaufman, 1982:732). They argue that labour market segmentation is a multi-dimensional phenomenon which cannot be forced into a single-dimensional model. Thus, Kalleberg et al. (1981) identify industries' position on a series of continuous variables and then isolate a dozen unique sectors, rather than simply categorizing industries in a two (or three) sector model. Such a design improves predictive accuracy and identifies obvious irregularities. For example, Kalleberg et al. (1981:10) find their "oligopolistic" sector (which includes firms like IBM and EXXON) matches the simpler segmentation model in all respects except for its low level of unionization. But this strategy also tends to limit the heuristic utility of the simpler segmentation model.[39]

Again, it is important to emphasize the probabilistic nature of the segmentation model, which proposes that industries with certain characteristics (e.g. large size, considerable market power) are *more likely* to contain primary labour markets, to have "progressive" management schemes, and so on. Only evidence that there is no systematic relationship between such characteristics across industries would be really damaging to the model. Evidence of imperfect alignment of characteristics calls for more middle range theory and research on specific industry characteristics.

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[39] We could likewise take a concept like "social class", identify some of the many variables which are encompassed by it, and use them rather than the categorical "class" variable in our analyses. We might expect improved predictions but would have lost the powerful explanatory concept.

A further methodological problem, according to some researchers, concerns the correct unit of analysis: the industry, the firm, the establishment, or an occupation (Osberg et al., 1981:412; Hodson and Kaufman, 1982:728; Clairmont et al., 1983:258; Finlay, 1983:314). Core industries may contain firms with periphery sector characteristics. Core sector firms may contain secondary labour markets or even have establishments at several locations, only some of which contain primary labour markets. The issue may simply be one of the "appropriate" rather than the "correct" unit of analysis. Specific research questions might demand data at an industry level of analysis. Alternatively, evidence that a firm under examination operates several establishments containing different types of labour markets would suggest examination of establishment-level data.

D. Labour Market Segmentation in Fort McMurray

Perhaps the most obvious relevance of the segmentation model to this study lies in the interpretation the model provides for the economic changes Fort McMurray has experienced. The single industry community literature reviewed in chapter two is not nearly as useful in this respect. With the construction of their plants, Suncor and Syncrude totally transformed this previously isolated northern community. As traditional labour intensive industries gave way to the now dominant capital intensive oil industry, the community's economy moved from an era of competitive capitalism into its present monopoly capitalist stage. Two huge firms, employing sophisticated technology and investing billions of dollars, have developed a resource (with the help of Bechtel, a third corporate giant) which a series of small entrepreneurial firms and individuals failed to develop in an earlier era. These firms and individuals competed actively for leases, labour, financing, and government interest in their projects. None succeeded and eventually the major oil companies became interested.[40]

Suncor and Syncrude are owned and controlled by some of the most powerful oligopolistic firms operating in the international oil industry. Both firms are also partly

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[40] The same pattern is visible in the history of conventional oil and gas development in Alberta. "In the early years, competition was fierce and risk capital was scarce. Eventually all of the [Canadian] majors succumbed to the need for large capital resources and were taken over by the large international petroleum companies." (Hilborn, 1968:39).

owned by the state (the Alberta, Ontario, and federal governments). While final control remains with the corporate sector share-holders, many of the risks of production and marketing of the oil may still be reduced. Hence, Fort McMurray today contains a classic example, on a smaller scale, of the dual economies described by labour market segmentation writers. The local core sector is very obviously the oil sector, although the construction industry might have been considered part of the core during building booms in the past. It might also be argued that the state employment sector is today part of the core, but there is little difficulty in classifying all remaining industries in a periphery category.

Whether there is competition among the oil giants in the world market has often been questioned. It is equally difficult to imagine the two local firms as aggressive competitors. They may have had to compete actively for labour during the Syncrude construction boom, but now they share technical information and some services. Risk-taking and competitive are adjectives more descriptive of peripheral sector firms in this community than of the core sector oil companies. These firms may compete up to a certain level, but it is with a recognition that they are sharing a resource and a market. Together, Syncrude and Suncor dominate the local economy.

These powerful core sector firms are much more capable of controlling their economic and political environments than are periphery sector firms. This has, in the past, taken the form of encouraging governments to modify oil pricing and taxing agreements, to alter labour legislation, to become financial backers of oil sands development projects, and to provide much of the costly community infrastructure when new plants led to rapid community growth. Some of these lobbying successes have taken considerable effort (see Pratt, 1976) but in other cases the state has taken an active supportive role. [41]

Alongside changes in industrial structure, we have witnessed the development of dual labour markets. During construction booms it might have been appropriate to include construction jobs as part of the "primary labour market", although it is obvious that job

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[41] A good example of a mutually satisfactory arrangement is the agreement between the federal government and Suncor in July of 1982 (Edmonton Journal, 1982b). In return for a $35 million tax break and an agreement to "increase prices enough to restore its historic profit margins", Suncor promised to spend over $300 million each on its Fort McMurray plant and its Sarnia refinery, and to follow the government's "six and five" wage guidelines. The federal government received a promise of business investment and support for its inflation fighting program; Suncor received tax breaks, price increases, and government approved wage restrictions.

security, a central concern in the segmentation model, is not characteristic of the construction industry. The primary labour market today is found within the oil companies (and may also include government jobs). The secondary market is inclusive of the employment opportunities available in all other local industrial sectors. Thus, Lucas' (1971) "parallel hierarchies" model of resource town social stratification could serve as a model of a segmented labour market. Further research is needed, but it would appear that incomes and benefits (including housing subsidies), and work experiences differ substantially between sectors.

The organization of the workplace in Syncrude, the largest of the local core firms, resembles the internal labour markets discussed in the segmentation literature. A 1977 version of the Syncrude Employee Relations Handbook describes the firm's job ladder:

> The progression schedule is made up of a series of four levels, with three stages at each level. Your salary will increase as your skills and job knowledge progress with the combination of experience and training. Your entry point on the progress schedule depends upon your measured experience and qualifications. (Syncrude Canada Ltd., 1977:4).

Length of annual vacations is also tied to seniority in this firm.

A variety of on-the-job training programs are offered by Syncrude. These have included courses in work team operation and basic management skills, native culture awareness courses for supervisors, and a large number of more technical courses on plant and mine operations and maintenance. Syncrude began its operations phase with eight hour shifts and then moved into a twelve hour shift rotation. Until early 1982, every fifth shift had a training component built into it. This policy was dropped because of cost-cutting initiatives and because reduced turnover meant that fewer workers were requiring basic training courses (Hadden, 1982). This suggests that seniority will become a more important determinant of within-firm upward mobility than it may have been in earlier years of Syncrude's operations.

As is often the case for large core sector firms, some of the costs of employee training have been carried by the state. The provincial and federal governments financed and operated a local trades training school during the construction of the G.C.O.S. mine and plant (Mair, 1967). The industrial training program offered by Keyano College during and following the Syncrude construction era is another example. While this community college does not now provide training in skills directly transferable to oil company workplaces, it does specialize in the training of heavy equipment operators who are always needed in mining operations. From 1976 to 1981, between 17% and 26% of the students enrolled were taking these types of courses (Keyano College, 1981). In addition, the oil companies have at times paid for the training of their own trainers by Keyano College instructors (Gervais, 1982). However, the college also trains workers for employment in specific secondary sector industries (e.g. carpenters, meat-cutters, plumbers and welders). Hence, it is difficult to determine whether core or periphery sectors benefit more from the services of this state-funded institution.

Syncrude also provides a good example of the labour control strategies which segmentation theorists claim are typical in core sector firms. The company began its operations phase by introducing the "team concept" to the workplace. Adoption of this form of participatory management was intended to increase efficiency and productivity, reduce turnover, improve the quality of the work experience, and increase job satisfaction, in that order.

> The purpose of the team concept approach is not to be nice to workers; it is increased productivity. That workers feel more respected and important is a fringe benefit that results from more constructive worker/management relations. (Hanafin, 1976).

The director of Public Affairs for the firm, echoing this sentiment, stated that:

> Syncrude's view is that good employee communication is important, not for its own sake, but because it is a vital component in employee productivity, stability, and overall morale. (Barr, 1978:34)

With this management method, workers and supervisors are grouped into teams responsible for particular tasks in specific areas of the plant or mine. The team members have different skills and are also encouraged to learn skills required for other aspects of the task. Team meetings are used to determine the best ways to approach and complete a task and democratic decision-making is encouraged within the team meetings. The development of effective formal and informal communication linkages between management and employees is stressed (Barr, 1978). The degree to which traditional workplace hierarchies disappear within this system is difficult to determine, since the role of management is explained differently by different people. An early company document stated that:

> The role of the manager changes under a team concept approach .... The manager functions more as a coach, trainer, and consultant to the team.... He is a resource to be used by the team in helping them to manage their work. (Hanafin, 1976).

However, the company's employee relations director commented that:

> I don't feel that in a team approach a supervisor loses authority, but he does apply it in a different way -- as an effective leader. (Syncrude Canada Ltd., 1978c).

Finally, a lower level manager explained his understanding of the supervisor's role in a workplace team:

> I'm going to tell you what I want, you tell me how it's going to be done. (Hadden, 1982).

This form of labour control resembles Friedman's (1977) discussion of "responsible autonomy" in the workplace of core sector firms. Other aspects of the Syncrude organizational design appear similar to Edwards' (1979) ideal type of "bureaucratic control". Syncrude employees are provided with copies of the Effective Team Meetings Handbook (Syncrude Canada Ltd., n.d.) which describes in detail how to organize agendas, run team meetings, solve inter-personal problems within them, and record team discussions and information transactions. The 1977 Employee Handbook begins by stating that the "Syncrude Employee Relations Philosophy" is based on the assumption that "the work life needs of individual employees are complimentary with the objectives of the company." (Syncrude Canada Ltd., 1977:1). Grievance procedures are outlined through six steps (work team, supervisor, area superintendent, division manager, department assistant general manager, and executive management) and employees are promised help from the employee relations department in presenting appeals. Discussions of possible conflicts of interest and of proper employee conduct are also included. In Edwards' (1979:21) words, Syncrude had adopted a labour management policy based on "the principle of embedding control in the social structure or the social relations of the workplace." Workers are offered a career (the employee relations handbook is titled "Your Career with Syncrude") in a firm where power differences between management and workers are not obvious and where control mechanisms are built into the organizational design.[42]

As argued earlier, the segmentation model does not fully explain the over-representation of women and non-whites in peripheral sector employment. It does highlight the question of what types of barriers stand between them and equal employment opportunities. In Fort McMurray (and other northern Canadian resource towns) one important question would be: what types of structural barriers are encountered by native Canadians attempting to participate in the local economy? Evidence that native Canadians were active participants in the trapping and transportation economies which preceeded the oil era in Fort McMurray was presented in the previous chapter. The discussion also noted the two sides of the story of Indian and Metis participation in oil sands development. A large number of these original residents of the region have obtained wage labour employment at some time in the past two decades. But despite this, unemployment and underemployment are common among native Canadians in the region and in their home communities around Fort McMurray. Indians and Metis living in Fort McMurray are not equal participants in the local labour market (Littlejohn and Powell, 1981). In terms of a labour market segmentation model of the local economy, native Canadians are unlikely to be employed in the primary labour market and much more likely to be working in the secondary market, if they have employment at all.

This is, of course, not new information but it is useful to interpret the findings and conclusions of other researchers from a segmentation perspective. Littlejohn and Powell (1981:9) conclude that barriers to full and rewarding employment for native Canadians do not include company or government policies or regulations explicitly intended to exclude this group. The discussion of affirmative action programs (chapter three) supports such a conclusion. Entry into core sector employment is perhaps most often restricted to Indians and Metis because of their incomplete educations (Van Dyke and Loberg, 1978:130; Hobart et al., 1979:38; Littlejohn and Powell, 1981:3). In some situations, the skills acquired with a high school education may be necessary to do a particular job. In others, a high school education may simply be a formal requirement. Whatever the case, a minimum education requirement will impede many native Canadian job-seekers but very few non-native migrants to Fort McMurray. As Syncrude's native employment program director states:

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[42] In some ways, Suncor and Syncrude also exemplify the "technical control" described by Edwards. The continuous flow technology of the upgrading plant/refinery, the power plant, and the conveyor belts removing oil sand from the mines are typical of this type of labour control.

> We have [native] people who come in with Grade 8 and think they're educated – what do you tell them? .... What do you tell a guy with Grade 8 when he's competing against guys with Grade 10 and better? (Edmonton Journal, 1980).

Job-hunters with low education are more likely to end up in secondary sector jobs. If these applicants are also not fluent in English, as is the case for some native Canadians in northern Alberta, their handicaps are increased (Littlejohn and Powell, 1981:11). Furthermore, it has been argued that employers' assumptions that Indians prefer to work outdoors have led to the channeling of native Canadians into lower-pay menial and seasonal jobs (Deines et al., 1979:13), even though full time higher status jobs are what is desired (Littlejohn and Powell, 1981:5). Residence in a native community which offers few full time employment prospects also restricts opportunities. A vicious circle can quickly develop whereby an unstable work history becomes a reason for not hiring a job applicant even though this individual has migrated to Fort McMurray because it offers more permanent jobs (Assheton-Smith, 1979:5; Littlejohn and Powell, 1981:11).

Some observers suggest that more efforts have gone into training native Canadians for possible jobs than into the creation of jobs or the linking of trained individuals and job opportunities (Deines et al., 1979:13). In addition, housing and transportation problems can restrict native Canadians seeking employment in either sector in Fort McMurray. Indians living in Fort McMurray report that the main difficulty with training programs is that training allowances are too low to support a family in this community (Littlejohn and Powell, 1981:6). Residents of Anzac and Fort McKay could commute to Fort McMurray for training or for work, if necessary. For native Canadians living in Fort Chipewyan, lack of transportation and difficulties in finding housing have been obstacles standing in the way of obtaining training or taking employment in either labour market in Fort McMurray (Hobart et al., 1979:39). Littlejohn and Powell's sample of 180 Indians and Metis living in Fort McMurray also stated that lack of available housing was the major problem they faced on arrival in the community (Littlejohn and Powell, 1981:6).

Another barrier to finding permanent employment in Fort McMurray is the lack of access to informal information networks which might provide information and "contacts" for job-seekers (Assheton-Smith, 1979:13; Littlejohn and Powell, 1981:10). Because of the social distance between non-native and native residents of the community, it is unlikely that useful employment-related information, most likely to originate from a non-native source, would make its way to Indians and Metis. In this regard, Fort McMurray quite resembles the single industry community described by Lucas (1971:127-38).

Assheton-Smith (1979:v) writes that

> not enough employers have been exposed to the long-term advantages of using a native employee in a remote or frontier area. Because of the fear of productivity loss, the industry usually prefers to acclimitize an industrial urbanite to the harsh living conditions rather than a native worker to the modern needs of industrial enterprises.

Such sentiments would obviously help explain some of industry's reluctance to hire native Canadians. But they cannot fully account for situations where firms such as Syncrude do attempt to hire native Canadians, where members of this population are actually desirous of full-time industrial employment, but where native Canadian unemployment rates remain high. The above examination of information on native Canadian employment patterns in Fort McMurray reveals that researchers have identified some of the further critical "mechanisms by which individual persons or categories of persons are excluded from given occupations" (Assheton-Smith, 1979:11), even though these researchers have not been working within a labour market segmentation framework. Beyond the obvious handicap of specifically prejudicial hiring practises (undoubtedly some of this occurs in Fort McMurray as in other Canadian communities), there are a number of other reasons why Indians and Metis are more likely to be working in the secondary labour market, if they are employed at all. These barriers to equal participation include education and job training inadequacies, unstable work histories, non-access to informal information networks, and difficulties in obtaining transportation to and housing in Fort McMurray.

This overview demonstrates that the labour market segmentation model can help interpret and link some of the diverse information on work and stratification in Fort

McMurray. Some of the substantive areas of sociological research which segmentation researchers could, but have not addressed, might also be fruitfully examined in this context. In several ways, Fort McMurray is an excellent research setting for the examination of hypotheses derived from this research perspective.

Because of its very rapid growth from a competitive to a monopoly capitalist era, this community allows the testing of hypotheses about work outcomes in a segmented labour market in a setting where the evolution of the dual labour markets can be seen at first hand. I have suggested that the segmentation model hypothesizes greater job opportunities in primary labour markets at times of core sector expansion. An examination of opportunities for periphery to core sector movement for migrants to this resource town is obviously possible. Because of Fort McMurray's relatively small size, detailed survey research methods can be employed to look at objective rewards of work (incomes and fringe benefits) and at workers' descriptions of their own work. Survey methods are also most useful for examining the subjective outcomes of participation in dual labour markets. Some appropriate hypotheses about job satisfaction and class consciousness have been drawn from the job satisfaction literature and from Goldthorpe et al.'s (1969) study of "affluent workers". The latter researchers based their conclusions about privitized workers on research in a British community which they had chosen because of its high incomes, good prospects for continued in-migration, high levels of consumerism, advanced industrial technology, "progressive" management, harmonious industrial relations, and its high rate of economic growth (Goldthorpe et al., 1969:31-2). The resemblance to Fort McMurray in the 1970s is striking.

Because of Fort McMurray's single industry nature, some of the methodological problems encountered by segmentation researchers are reduced. Critics have suggested that the boundary separating the core and the peripheral economies is unclear, that there is imperfect alignment of industry level characteristics assumed to differentiate core and periphery industries. In Fort McMurray, this is a non-problem. The oil industry is dominant in the local economy and clearly constitutes the core sector. There is also less difficulty in assuming a one-to-one correspondance between dual economies and dual labour markets. Finally, the "unit of analysis" problem is also inconsequential in this research setting. Whether to study the industry, the firm, or the establishment is of little concern when the industry is represented by two major firms, each operating in only one location.[43]

E. Summary

The labour market segmentation model of industrial capitalist society is a very broad theoretical perspective which links a number of previously distinct research areas in sociology and economics. The model attempts to explain the evolution of dual economies and segmented labour markets, as well as the unequal rewards of work and different career opportunities in this hierarchy of labour markets. The segmentation literature has not been previously extended to include predictions about differences across sectors in workers' subjective responses to work. Several hypotheses about job satisfaction and class consciousness differences were suggested in this chapter.

Although the segmentation model does not adequately account for the disproportionate initial allocation of women and non-whites to the secondary labour market, its emphasis on the structural barriers which inhibit across-sector mobility is very useful. Other criticisms of the general model are noteworthy but not serious enough to warrant its complete rejection. In fact, a single industry community may be a very useful place to test some labour market segmentation hypotheses. Some of the methodological difficulties identified in critiques of this perspective (e.g. the boundary definition and unit of analysis issues) become less problematic in this research setting.

A series of hypotheses are listed in the next chapter, and subsequent chapters contain tests of these hypotheses with survey data from Fort McMurray. However, the preceeding discussion has already demonstrated some of the utility of the general labour market segmentation model. It can link the variety of historical and contemporary information on work and stratification in this community. It also provides an explanation of the large scale social and economic changes which this community has experienced in the past two decades. The following chapters focus more closely on the experiences of some of the individual workers whose life chances have been affected by these structural changes.

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[43] Actually, some of Syncrude's research and management employees were located in Edmonton until 1982 when the firm decided to move all of its operations to Fort McMurray. In terms of the segmentation model, this would mean that the firm's Edmonton establishment contained part of its independent primary labour market.

V. Hypotheses, Methods, and Measurement

A. Introduction

Information about Fort McMurray as well as other single industry communities has been reviewed in the preceeding chapters. It is apparent that a general theoretical framework which can integrate the large amount of information on industrial development, work opportunities, and social stratification is lacking. I have argued that the labour market segmentation model might be useful in such a role. This model provides a structural-level analysis of social change in capitalist society which appears highly relevant in interpreting the recent rapid growth and development of Fort McMurray. The model also proposes that individual workers' employment opportunities, work rewards, and work-related attitudes differ according to their position in a segmented labour market.

A variety of individual-level hypotheses derived from this model were discussed in chapter four. Those which are relevant to this study and which can be tested with available data are grouped below in categories corresponding to the three basic questions which underlie this study. These hypotheses are then tested in chapters six through eight. Some additional hypotheses emerging from previous research on Canadian resource extraction communities are also presented. This chapter concludes with a discussion of the survey data used in testing these hypotheses.

B. Hypotheses

Employment Opportunities for Migrants

A very general question introduced this study. Has the large-scale development of the Athabasca oil sands provided improved employment opportunities for migrants to Fort McMurray? An equally general hypothesis links several sections of the data analysis: *Fort McMurray has offered migrants an opportunity for higher status attainment (both improved incomes and higher status work).* It has been frequently observed that people are attracted to rapid growth resource towns because of the available jobs and the "good money". An examination of whether their expectations have been met has not been undertaken. The general labour market segmentation model also hypothesizes such opportunities. Fort McMurray's core sector oil industry has been expanding rapidly in the past two decades, and the model proposes that opportunities for periphery to core sector movement increase in times of core sector expansion. Hence, we would also predict that *across sector mobility into a primary labour market accompanied migration for many new arrivals.*

Several secondary hypotheses are related to these central predictions. Various observers have suggested that resource towns often attract individuals who have been previously unsuccessful in the labour market. Labour market segmentation writers might interpret this as participation in a secondary labour market where seasonal employment and high turnover are common, where unemployment is frequent, and where incomes are generally low. Following from this, we might predict *high levels of job instability and unemployment in the work histories of migrants to Fort McMurray.* We would also expect large numbers of migrants from economically depressed areas of the country where periphery sector employment or unemployment are more common, a fact already noted in the previous chapter.

Fort McMurray may provide opportunities for movement out of a secondary labour market but it is unlikely that all migrants to this community would have left behind such employment, or that all who did were able to move upward following arrival in the community. The labour market segmentation literature contains extensive discussions of the factors influencing initial assignment of individuals to secondary labour market jobs, and also inhibiting movement out of these jobs. Thus, we could hypothesize that *migrants with the most unstable employment histories would be least likely to have crossed sectoral boundaries when taking new employment in Fort McMurray.* Also, *individuals with little education would be less likely to have left the periphery sector as a consequence of migration,* and *women would be unlikely to have made an upward across-sector move when migrating.*

Upward mobility across sectors would involve an increase in occupational status, but so too would maintaining core sector employment with migration. Presumably, exchanging a primary labour market job for a similar job in Fort McMurray would involve movement along a career path. This suggests that *jobs arranged before migration should be relatively more frequent among individuals leaving core sector employment.* It also follows that *occupational status improvements would be expected from both core-core and periphery-core job changes.* A downward sectoral move would obviously constitute a status loss, but the general segmentation model suggests that such moves are unlikely. However, in a "boom town" situation where incomes in the construction industry are high, some migrants might trade occupational status for high incomes. In other words, rapidly expanding resource towns may constitute labour markets wherein very few migrants maintain previous occupational status. A majority might improve their status (if the primary local employer is a core sector firm) and a minority might lose status, but no movement might be the exception.

After the Fort McMurray oil firms finished building their new plants and had acquired a relatively stable labour force, employment opportunities in this community declined in number. Consequently, we can hypothesize that *migration cohorts arriving after the major construction booms, and after initial hiring for operations would have benefitted less.* Fewer jobs in the local core sector would obviously also mean fewer chances for across-sector mobility and for increases in occupational status within sectors. Looking back over time, we might further hypothesize that *"old-timers" in the community would have benefitted little from oil sands development* since they would probably have been too old, too poorly educated, and too unskilled to compete with younger, better educated in-migrants. The review of the energy resource boom town studies would also suggest such an hypothesis. The earlier discussion of native Canadians living in the region (chapter three) concluded that this group of long-time residents had probably benefitted least. However, as I note below, the survey data used in the following chapters allow little further examination of the work experiences of native Canadians in this community.

The Local Stratification System

The second question introducing this study asked whether employment opportunities had been equally distributed or whether distinctive patterns of social stratification exist within the community. Obviously, some of the hypotheses listed above are directed toward this question. However, they are separated from those below because of their relevance to the subject of migration. The hypotheses in this section focus on the social structure and the organization of work within the community itself.

Lucas (1971) argued that occupation was the primary basis of stratification in Canadian towns of single industry. He also discussed parallel occupational hierarchies which distinguished employees of the major industry from other local labour force members. In a sense, this categorization is similar to the most basic segmentation proposition: labour markets are separated into primary markets in core sector industries and secondary markets in periphery industries. However, segmentation theory clearly states that employment in the primary labour market is more rewarding than is work in the secondary market, while Lucas did not make this explicit. My interpretation of Fort McMurray's industrial development leads to the central hypotheses that *incomes are higher and benefits more extensive in the oil company primary labour market* and, further, that *segmentation by industrial sector (oil company versus other industries) is today the most important base of local social stratification.* Some of the evidence favouring this first hypothesis has already been presented. With respect to the second, we would expect that sector of employment (a binary variable) would better account for variation in incomes and fringe benefits (including housing) than would occupation and education. The segmentation model's emphasis on "better jobs" in the core sector also leads to the hypothesis that *core sector workers would describe both intrinsic and extrinsic aspects of their work more positively than would periphery sector workers.*

Research on social class divisions in Fort McMurray is non-existent. The few discussions of the truncated class structure of other resource towns leads to the hypothesis that *Fort McMurray has only two basic classes - a working class and a managerial/professional/technical class.* Recognition of the fairly complicated technology used by the oil companies would suggest that *the managerial/professional/technical class is of substantial size.* There is insufficient information from which to hypothesize whether a social class measure will better predict incomes, for example, than would a two-category segmented labour market variable. However, I would expect *class differences in incomes and benefits within both Fort McMurray labour markets.*

Labour market segmentation researchers have demonstrated the over-representation of women, non-whites, and less educated individuals in the secondary labour market. This suggests the obvious hypothesis that *women, native Canadians and poorly educated workers will be less likely to be employed by the Fort McMurray oil companies.* The research findings reviewed in previous chapters support such an hypothesis for women, and for Indian and Metis residents of the community, but the average education of workers in these two sectors has not been compared. If, as segmentation theorists propose, gender inequalities are superimposed upon sectoral divisions within the economy, we would expect a further division of labour within sectors. Thus, we could predict that *in both the core and periphery sectors, women would be over-represented in low status occupations, and would be receiving lower incomes and fewer fringe benefits.* For both sectors, we can point to the already assembled evidence: women are typically paid less than are men. We also know that, in the local oil companies, women are found mainly in the lower status (clerical) jobs. However, more careful examination of these differences in income and occupational status would still be useful, and the distribution of fringe benefits has not been previously examined.

Central to the segmentation model is the proposition that because of the existence of job ladders and career paths, experiences of upward occupational mobility are more frequent within core sector firms. Lateral job movements and changes of employer are more common in the peripheral economy. In the Fort McMurray context, this translates into the hypothesis that *oil company employees are more likely to experience within-firm upward occupational mobility.* In addition, I would also predict that *education would have larger effects on income and on occupational status among participants in the primary labour market than among workers in the secondary labour market.* As noted in chapter three, the labour market segmentation model proposes that human capital predictions are really most relevant to core sector employment.

Work Values, Job Satisfaction, and Class Consciousness

The third general question guiding this study is: What are the subjective outcomes of participation in the local labour market, and are they influenced by the nature of the local stratification system? Before presenting the several general hypotheses addressing this question, one other attitudinal prediction should be put forward. The single industry community literature contains numerous comments about the monetary ("get rich quick") motives of migrants to resource towns. This suggests the basic hypothesis that *Fort McMurray workers will exhibit high levels of instrumentalism in their work attitudes.* This hypothesis implies that these work attitudes are brought to the community. The remaining attitudinal hypotheses assume that working in this community affects attitudes and opinions.

My earlier discussion of job satisfaction in a segmented labour market leads to a simple hypothesis: *managers, professionals, and technicians in oil company employment (the independent primary tier) should report greater job satisfaction than is reported by industrial and other lower-level workers in these firms (the subordinate primary tier). The lowest level of job satisfaction would be expected in the local secondary labour market.*

The review of the single industry community research literature highlighted several unresolved debates, including the question of whether the work forces of Canadian resource towns were class conscious and militant. Conceptualizing the economies of such communities as microcosms of the larger industrial capitalist economy, and employing a dual economy/segmented labour market model, we can consider this question from a different perspective. Although this study cannot directly address the hypothesis, we might suggest that in an earlier era of labour homogeneity, following Gordon et al.'s (1982) terminology, resource town work forces were more class conscious and militant. With the development of dual economies and segmented labour markets, such militancy has waned. A cross sectional survey can, however, examine the hypothesis that *across sector class consciousness does not exist in contemporary Fort McMurrray.* In other words, I would not expect employees in the secondary labour market and in both tiers of the primary labour market to have a shared "working class" world view.

The segmentation model was further elaborated to include propositions about class consciousness of workers in the several labour markets of a segmented economy. From these propositions we can hypothesize that *participants in the upper tier of the Fort McMurray primary labour market would be most likely to perceive their interests as congruent with those of their employers, and with capital in general.* I would also predict that *subordinate primary labour market participants would be more instrumental* *and privatized in their work attitudes, and less conscious of social class divisions.*[44] Finally, I suggested in chapter four that the segmentation model might predict *more working class consciousness among secondary sector workers.* I am not particularly confident about this hypothesis since there are many reasons why such shared class attitudes might not develop in a labour market where turnover is high, unemployment is frequent, unions are not very active, and so on. However, in a single industry community in which secondary sector workers are highly aware of the advantages of primary sector workers and of the profits made by core sector employers, we might see the development of such a shared world-view.

C. Research Methods

The data used in the following hypothesis tests were collected in a June, 1979 survey of residents of Fort McMurray.[45] Face-to-face interviews were conducted by trained interviewers with a total of 430 randomly selected adults. Collection of information on employment and migration histories, job satisfaction and other relevant topics was only part of the larger "study of human adjustment in Fort McMurray". Population characteristics, housing supply and quality, service provision, family life and other "quality of life" concerns were additional research subjects.

This social impact study was funded by the Alberta Oil Sands Environmental Research Program (AOSERP), a joint Alberta-Canada research agency established to implement research on environmental, economic and social aspects of the development of the Athabasca oil sands deposits. Along with a large number of studies of environmental impacts of industrial development, this agency also supported other social science research projects, several of which have been cited in previous chapters.[46] Some further comparison information from these and other studies will be presented in the following chapters but the central data resource for this study is the 1979 survey. The research report produced in that study (Gartrell et al., 1980a) contains some general discussions of work and stratification-related issues, but much more analysis of other aspects of population growth and the quality of life in this resource town. It also includes a considerably more detailed discussion of research methods than that which is presented here.[47]

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[44] An hypothesis that instrumental or privatized work attitudes will be most prominent in a specific local employment sector appears to be at variance with the earlier general prediction that Fort McMurray has attracted large number of instrumentally-oriented workers. The hypothesis about self-selection of workers comes from the single industry community literature. This prediction about the effects of sectoral location on workers' attitudes is derived from the segmentation model. A final answer about whether specific work attitudes are imported to or created in Fort McMurray is more difficult to obtain than is an answer to the question of whether work attitudes and class consciousness vary by sector.

[45] Dr. John W. Gartrell of the University of Alberta's Department of Sociology was the study director. I participated in the study through all stages (except the sampling phase), including the design and pre-testing of the questionnaire, and the training of interviewers. I supervised the interviewing in Fort McMurray for about one half of its duration, and also supervised the coding of the data. Along with Drs. Gartrell and David Sunahara, I co-authored the final report.

A dozen Fort McMurray residents were interviewed in April of 1979 in a pre-test of the interview schedule. The final interview schedule was a product of the revisions suggested by this pre-test. A total of 30 interviewers (25 of whom were residents of the community) were trained prior to the beginning of interviewing. Interviewing began in the last week of May, 1979 and continued through until the end of June.

Because of the extremely high level of population turnover in the community at the time, it was impossible to obtain an up-to-date sampling frame of individuals or families. Instead, the individual dwelling unit was designated as the Primary Sampling Unit (PSU) and a systematic sampling strategy was chosen. Two weeks before interviewing was to begin, a sample selection team canvassed the entire community, dropping off letters of introduction and recording the address (or a description of the dwelling if an address would not help an interviewer identify the dwelling) at every 14th dwelling. Pre-determined starts and re-starts were used to avoid periodic bias in this sampling design. The sampling interval of 14 was determined by dividing the total number of dwellings in the community (about 8600 in December of 1978) by 620, on the assumption that an initial sample of this size would result in a final sample of 400 to 500 respondents. A total of 627 PSUs were selected and identified in this manner.

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[46] These include several studies of native Canadian employment patterns in the region (Assheton-Smith, 1979; Deines et al., 1979; Littlejohn and Powell, 1981), and a more general study of industrial change and economic development (Nichols and Associates Ltd., 1979). Parkinson et al. (1980) examined life in construction camps while Van Dyke and Loberg (1978) undertook a participant observation study of Fort McMurray during the Syncrude construction boom. Larson (1979) reviewed the literature linking resource development and family well-being. Historical studies of the Athabasca oil sands region were prepared by Parker (1980) and Parker and Tingley (1980).

[47] A number of additional papers, based on analyses of these survey data, have been written. They include a discussion of family life in resource towns (Krahn et al., 1981), and a study of fertility among migrants to this community (Vlassoff and Gartrell, 1980). In addition, population growth (Gartrell and Krahn, 1982) and housing supply and quality (Gartrell and Krahn, 1983) have been examined in more detail. Some of the occupational mobility analyses presented in chapter seven also appear in Krahn and Gartrell (1981, 1983).

Interviewers, working in a residential area other than their own, used a sampling chart to randomize the selection of adult respondents (over age 16 and not attending school) within the pre-selected dwellings. [11] Contact could not be made with residents of 63 of the 627 PSUs originally selected, despite an average of five attempts at different times on different days. This difficulty may reflect the transiency of Fort McMurray residents as well as working schedules in the community (long shifts and frequent overtime). Interviews averaging a little more than an hour in length were completed in 430 of those dwellings where contact could be made. This represents a completion rate of 76% of those contacted (or 69% of the original sample). The refusals accepted by interviewers in the remaining PSUs generally were a result of a lack of interest on the part of designated respondents: 44% said they were "too busy" or "not interested" while 33% did not explain their refusal.

Comparisons to the 1979 Fort McMurray Municipal Census which was conducted at the same time as the survey allowed a test of the representativeness of the final sample. It appeared to be representative of the population in terms of age, household size, residential area of the community, housing tenure, and industry of employment. The census-sample comparison suggests that males and apartment dwellers may have been under-represented, probably because of interviewers' difficulties in making contact with them (Gartrell et al., 1980a:25-34). For the purposes of this study, such sample biases should not be problematic since population estimates (e.g. labour force participation by gender) can be obtained elsewhere. Also, separate analyses are undertaken for men and for women in most cases in the following chapters.

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[11] Use of the six different sampling charts, randomly assigned to interview schedules beforehand, ensured that the sample would be representative of the population. The usual alternatives (interviewing any adult in the household, or quota sampling for male and female respondents) may produce biased samples. The sampling chart strategy, however, requires interviewers to call back if the designated adult is not at home. Thus it can increase interviewing time and costs.

D. Comparison Data from other Surveys

A survey conducted in Fort McMurray a decade earlier (1969) by Professor J.S. Matthiasson was mentioned in the earlier discussion of the place of origin of Fort McMurray residents. The 1979 AOSERP interview schedule was designed to allow comparisons to this earlier study, where relevant and possible. Since Matthiasson's research interests only partially overlap the research questions in this study of work and stratification, the possibilities for comparison are limited.[49] In addition, there are some methodological problems with this earlier survey. Matthiasson's research team sampled every fourth dwelling in the community, dropping off self-administered questionnaires to be completed by adult residents. If a family occupied the dwelling, both husband and wife were asked to complete questionnaires. Use of this strategy means that the choice of respondents did not constitute a series of independent events, and that the sample was not randomly chosen. Matthiasson (1971:9) also acknowledges that single males are under-represented in this sample. Thus, comparisons with the 1979 AOSERP data must be made cautiously.

Matthiasson originally had a sample of 468 which represented a completion rate of 90%. When the original data were obtained from him in 1979, only 453 usable questionnaires could be located. The information from these was coded for computer analysis. Some of the data from this sample of 453 residents of Fort McMurray in 1969 are examined in the following chapters. They allow us a few across-time comparisons of the nature of the population, of the social structure, and of work experiences in this rapidly changing community.

Inter-community comparisons for some of the hypothesis tests are provided by data collected in the Edmonton Area Study (EAS). This survey of adult residents of Edmonton (18 years of age and older) is conducted annually by the Population Research Laboratory of the University of Alberta's Department of Sociology. Dwellings are randomly selected from a sampling frame produced in Edmonton's annual population census. Quota sampling within chosen dwellings is used to ensure a reasonable male-female ratio in the sample of individual respondents. Trained interviewers are used and, like the 1979 AOSERP study in Fort McMurray, the face-to-face interviews generally last about one hour.

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[49] A copy of the 1969 questionnaire is included in the second volume of the Gartrell et al. (1980a) research report, along with a copy of the 1979 AOSERP questionnaire. Matthiasson (1970, 1971) has published discussions of only a small portion of his research results.

Quality of life concerns are central to the annual EAS, but various other research questions also influence the content of the interview schedule created for each year's study. Consequently, comparison data for this community study of Fort McMurray are taken from several different EAS samples, as well as from a 1981 Winnipeg study employing similar methods and the same interview schedule. Sample sizes and completion rates for these several surveys were: Edmonton, 1979 (n = 440; 75%), Edmonton, 1980 (n = 428; 76%), Edmonton, 1981 (n = 400, 75%), Winnipeg, 1981 (n = 336; 74%), and Edmonton, 1982 (n = 507; 76%).

Finally, several national sociological surveys conducted in the 1970s are examined briefly for comparison data. The 1973-74 Canadian Job Satisfaction Survey (Burstein et al., 1975) and the 1973 National Mobility Study (Boyd and McRoberts, 1974) provide benchmark national estimates on job satisfaction and occupational mobility. Although these studies are a decade old, they are the only such topic-specific national sample studies in existence. Other researchers' analyses are consulted for information from these studies while the Matthiasson and EAS data are directly examined.

E. Measurement

The analyses of income attainment, occupational mobility, job satisfaction, work attitudes, and class consciousness in the following chapters are somewhat restricted by the structure of the original interview schedule. The AOSERP-funded research was designed as a broadly-ranging social impact and quality of life study. Inclusion of questions about concerns not examined here meant that additional work and stratification-related questions had to be sacrificed. As in all such research endeavours, reconsideration of theoretical perspectives and reformulations of hypotheses subsequent to data collection also meant that some important questions were never asked. Given these caveats, a brief comment on some of the more important variables examined in this study is presented here.

Age, gender, and length of residence in the community are demographic variables which appear in most of the data analyses. Differential work opportunities for men and women have been noted frequently in the previous discussions. I have also suggested that different age groups and migration cohorts may have been unequal beneficiaries of the industrial development occuring in this community. In addition, these demographic variables are included in many conventional analyses of income attainment, occupational mobility, and job satisfaction.

For most of the analyses of occupational mobility amd income attainment, the standard definition of labour force participation defines the sample. Thus, it includes 305 currently employed and 21 unemployed (out of work and looking for work) individuals. The analyses of fringe benefits and of job satisfaction focus on only the currently employed workers. Of these, 39% (n = 119) were working for one of the two major oil companies. Syncrude was the largest employer in the local core sector (n = 81) while Suncor employed 38 of the sample members. A binary variable indicating employment in the core oil sector is the primary independent variable in this study of segmented labour markets. The labour market segmentation model further differentiates between the professionals, technicians, and managers in the independent primary labour market, and the industrial workers in the lower tier of the primary labour market. This distinction among oil company employees is considered although the relatively few cases in the upper category preclude complex analyses. Forty-one of the 119 oil company employees in the sample (35%) had occupations that would place them in the upper tier of the primary labour market.

Such simplified core-periphery variables are possible only in a single industry community like Fort McMurray, as I have argued earlier. In other more industrially diversified settings, the debate about how to operationalize core and periphery sectors is more critical. For comparisons of pre- and post-migration sectoral status in this study, Boyd and Humphrey's (1979:68-9) classification system is employed. These researchers use industry concentration levels (the share of the industry's market maintained by the four leading firms) to distinguish core and periphery sector industries. Thus, mining, durable manufacturing, finance and insurance, and utilities and transportation industrial sectors are considered part of the core economy. Boyd and Humphreys also consider the public administration category as part of the core sector, and further include education, health, and social work occupations in this category because of the large state influence in these occupational spheres.[50]

The present and past jobs reported by survey respondents were assigned standard four digit occupational codes from the classification system devised by Statistics Canada (1971). These codes were then used in the assignment of occupational status scores, following Blishen and McRoberts (1976). Their index contains status scores ranging from a low of around 19 for occupations such as hunting and fishing to a high of around 75 for occupational categories such as law and dentistry. These occupational status scores will be used as independent variables in some analyses (e.g. the correlates of job satisfaction) and as dependent variables in others.

Sector of employment and occupation are two potentially important bases of stratification in this resource town. Social class is a third. Marchak (1975) and Bradbury (1978) note, with respect to B.C. resource towns, that the majority of labour force members in single industry communities can be categorized within a two class model containing workers and managers. Neither of these classes have ownership rights but the latter do have some control over the production process and over other workers. As hypothesized earlier, Fort McMurray also appears to have such a truncated class structure. Ownership of the dominant core sector firms is non-local. Only 12 (3%) of the sample members were self-employed in occupations that would classify them as part of the petty bourgeoisie class. Hence, in this study, labour force members are divided into two classes: the managerial/professional/technical class (n = 76) and the working class consisting of all other members of the local labour force (n = 227). The census occupational codes are used to place employed sample members into these two classes. The managerial class members within the core sector oil firms (n = 41) are, of course, the same individuals whom I have identified as participants in the upper tier of the primary labour market. What makes the class variable different is that it also cuts across the local core-periphery boundaries to separate workers within the secondary labour market.

A detailed set of questions about income from all sources for all household members was given to sample members at the conclusion of their interview. Answers to these questions were then compiled into two indices: respondents' total 1978 income and total 1978 household income.[51] In situations where the respondent lived alone, the two sums would be identical. The distribution of fringe benefits is measured with a checklist of benefits which was given to each of the employed respondents.

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[50] Boyd and Humphreys (1979:68) include construction in the periphery sector, as I do in the simplified Fort McMurray core-periphery typology. The Fort McMurray construction industry was extremely strong during the Syncrude building boom but this industry's dominance had decreased by the time of the 1979 survey (see Figure 2 in chapter three).

The standard demographic variables (age, gender, length of residence, marital status) and these measures of sector of employment, occupational status, income, and social class become principal explanatory variables in the following chapters. Occupational status and sector of employment also become dependent variables in the analyses of migration-related occupational mobility (chapter six). Similarly, respondents' 1978 incomes and reports of fringe benefits received are the central dependent variables in chapter seven, but are then used as explanatory variables in the analysis of job satisfaction in chapter eight. Along with several measures of job satisfaction which are introduced below, some work attitude statements are also examined. Finally, a self-report of social class position, an open-ended question about the prime beneficiaries of oil sands development, and some additional Likert-style attitude statements are among the measures allowing an initial examination of class consciousness in this chapter on the subjective outcomes of work. Other less central variables are introduced in the following chapters.

F. Validity and Reliability of Measurement

Validity in its most general sense refers to whether a particular indicator actually measures what it is intended to measure. Further distinctions can be made between face validity (simply the apparent reasonableness of the measure) and content validity. The latter refers to the degree to which this measure is representative of the concept's universe of meaning, and can really only be assessed through the judgements of presumed experts in the area (Kerlinger, 1973:458-9). For almost all of the measures used in this study, both face and content validity pose few problems. Few would disagree, for example, that a question about the number of times one has been unemployed measures employment instability. Only in chapter eight is there any detailed analysis of attitude statements (intended to index class attitudes), the validity of which might be questioned. In this case, a number of different items are used to consider the subject from several perspectives but, in the end, the reader remains the judge of their content validity. My position is that these measures are clearly not perfect but, in the absence of any better alternatives, they provide the only information available on social class attitudes in this community.

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[51] One individual who reported a net loss of $4624 in 1978 was assigned a value of zero.

While a panel of judges was not used to assess the content validity of other key measures used in this study, their repeated use in other studies indirectly attests to the confidence placed in them. The Blishen and McRoberts (1976) occupational status scores are clearly used more frequently in Canadian research than are any other status measures. Blishen and McRoberts (1976) obtained their scale scores for 486 different occupations from a regression equation which predicted the prestige (status) scores of 102 occupations (from Pineo and Porter, 1967) with the average income and education of individuals in these occupations, as reported in the 1971 census. The resulting scale indicates the social status ascribed to a particular occupation but also correlates positively and highly with other scales which measure skill levels required in particular occupations (Jones, 1980).[52]

Job satisfaction is measured with two "behavioural intentions" questions. These hypothetical questions ask whether an individual, if given the opportunity, would take the same job again, and whether he or she would recommend the job to a friend. The extensive debate about the different manner in which such measures and standard global satisfaction questions are interpreted is summarized in chapter eight. Essentially, this debate is one about the content validity of job satisfaction measures, and many researchers conclude that "behavioural intentions" measures more adequately tap the concept of job satisfaction than do other global measures (Locke, 1976:1335). Their repeated use in large national-sample studies (e.g. Burstein et al., 1975) both confirms such opinions and provides comparison data for this study. The same applies to the various job description/evaluation items and the several work attitude statements which are introduced in chapter eight. Their repeated use in national Canadian and U.S. surveys are an indication of other researchers' confidence in their validity.

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[52] Blishen and McRoberts (1976) used census tabulations of male incomes and education in the construction of their socioeconomic index. Blishen and Carroll (1978) constructed a similar index from census data on female incomes and educations. They find that equivalent status scores are predicted for men and women in the same occupations, but that the regression coefficients for income differ in the male and female equations, reflecting the lower wages frequently paid to women for equal work. Thus, while use of the Blishen and McRoberts (1976) scale for both male and female occupations in this study remains valid, it is important to remember that use of only occupational status scales in studies of gender stratification obscures women's lower incomes (Blishen and Carroll, 1978:352).

There is obviously little doubt about the face validity of self-report measures of income, beyond the legitimate concern about respondents not answering honestly. The detailed questions about income from all sources, which were taken from Canadian census interview schedules, should also ensure the content validity (sampling adequacy) of the income measures. Inclusion of non-employment sources of income (e.g. government transfer payments) introduces a small amount of bias, if one assumes that the individual income measure represents employment income. However, because some sample members did not completely itemize their various sources of income, specific comparisons of employment income alone are not possible.

I have noted the debate about how social class should be conceptualized, both in resource towns and in society at large. A debate about conceptualization is also one about measurement and, hence, we might question the validity of the simple two-class measure I have adopted. A preferred classification system might be Eric Olin Wright's Marxist model of class structure (Wright, 1976; Wright and Perrone, 1977; Wright et al., 1982). Wright argues that a number of distinct social classes can be identified in capitalist industrial society. He further elaborates his model with a discussion of contradictory class locations within and between modes of production (Wright et al., 1982) but, in its simplest form, his typology contains four classes (Wright and Perrone, 1977:34). *Capitalists* own, purchase, and control but do not sell their own labour power. *Managers* sell their own but also control others' labour power, while *workers* only sell their labour power. The *petty bourgeoisie* own their own means of production but do not purchase, sell or control labour power. The 1979 survey instrument did not include the detailed questions about workplace authority relations and work autonomy that would be required to use Wright's more complex typology. However, the two class model I have adopted is a crude approximation. Recognizing that occupational distributions really reflect a technical division of labour, while social class represents a position within the social relations of production (Wright and Perrone, 1977:35), this two-class model still distinguishes those non-owners who control others' work and/or much of their own, and those non-owners who do neither.

The test-retest reliability of some of the measures used was checked by telephoning 30 (7%) of the 1979 Fort McMurray respondents approximately two weeks after their interview, and re-asking them some of the questions. Questions requiring behavioural recall by respondents (e.g. How many residential moves have you made in Fort McMurray?) demonstrated very high test-retest reliability. Over 90% of these 30 respondents gave identical answers to such questions when they were re-asked. Attitudinal statements with agree-disagree responses (e.g. Life here seems to be a continual financial struggle.) showed moderately high reliability. Two thirds or more of these sample members responded similarly at two time points to attitudinal stimuli such as these. Since attitudes could actually change over a two-week period, the degree of test-retest reliability still appears very satisfactory.

Inter-item reliability is seldom a concern in this study, since very few of the independent or dependent variables used are indices or scales constructed from multiple measures. However, in chapter eight, three job description/evaluation indices are used as predictors of job satisfaction. These indices, averages of scores on individual items, were constructed on the basis of a factor analysis of responses to a series of nine such individual measures. Only low to moderate inter-item reliabilities are obtained, since such a statistic is a function of both associations among items within an index, and the number of such items (Cronbach, 1951). The four-item "social relations at work" index (Alpha = .64) and the two-item "job control" index (Alpha = .55) appear somewhat more reliable than does the two-item "job complexity" index (Alpha = .39). Since these indices are used as independent variables in the job satisfaction analyses, the low reliabilities may affect predictive accuracy in multi-variate analyses, but will not influence parameter estimates of job satisfaction.

G. Demographic Characteristics of the 1979 AOSERP Sample

Part of the stereotype of Canadian resource towns is that women are greatly outnumbered by men. The 1979 Fort McMurray sex ratio was imbalanced, but not severely so. The Municipal Census reported that 52.9% of the population were males (New Town of Fort McMurray, 1979:4). Several years earlier the sex ratio would have been more imbalanced, particularly if men living in the construction camps had been included in the calculations. The 1979 AOSERP survey sample contained 232 women (54%) and 198 men (46%) which, when compared to the census results, demonstrates the sampling bias mentioned earlier.

The average age of the 1979 sample members was 31.6 years, with a standard deviation of 9.7 years. The median age of this sample of *adults* was 29.7 years. The median age of the *total population*, from Municipal Census data, was 22.8 years compared to a provincial median age of 26.1 years. These local census results show that, compared to the province and the country (both in 1976), Fort McMurray had higher than average percentages of residents in the 0 to 14 and 20 to 39 age categories, and much lower percentages in the over 40 years of age categories (New Town of Fort McMurray, 1979:4). Considering the 60 and older category, the percentages were: Fort McMurray, 1979 (1.0%), Alberta, 1976 (10.8%), and Canada, 1976 (12.6%). It is not surprising, then, that the 1979 survey of 430 adults included only 7 respondents who were 60 years of age or older.

Only 17.7% of the sample members identified their marital status as "single". A majority (66.7%) were married and a further 8.6% were living in a common law arrangement. Divorced (4%), separated (1.6%) and widowed (1.4%) respondents were a distinct minority. Combining the married, common law, and separated categories, we obtain a total of 76.9% which is virtually the same as the 1976 Canadian figure of 76%. Thus, in terms of typical marital status, the Fort McMurray population is not unusual, despite the stereotype of high proportions of single residents in resource towns.

The difference between Fort McMurray and the Canadian norm would be the youth of these adult family members. This is reflected by the age distribution described above, but also by the average number of household members in this sample (3.48) compared to the 1976 Canadian average household size (3.10 persons). We can conclude that many of the relatively young Fort McMurray families still have their children living at home.

Respondents in the survey had completed an average of 12.2 years of education. The average education of native born-males in the 1973 National Mobility Study was 10.9 years, while the average education of native-born females in this national sample was 11.8 years (Boyd et al., 1981:660). The median in the Fort McMurray sample was 12.0 years of education compared to the 1976 national median of 10.5 years (Statistics Canada, 1980:73). These comparisons suggest that Fort McMurray residents are somewhat more educated than the Canadian average, but they may simply represent a cohort effect since the average age in this community is relatively low. An examination of 1979 EAS results suggests that this may be the case. The average age in the Edmonton sample of adults (40.1 years) was much higher than in the Fort McMurray sample (31.6 years) while the average number of years of education (13.3 years) was also higher. Because of the relative absence of older residents in Fort McMurray, the average level of education is high. Compared to a more typical Albertan urban centre, however, the education level of resident adults is somewhat lower than normal.

Sample-census comparisons of ethnic background are difficult to make because the 1971 national census did not accept "Canadian" as a legitimate response. Keeping this in mind, we note that 37% of the 1979 AOSERP sample reported that their father had an Anglo-Saxon (British, Scottish, Welsh, or Irish) ethnic background. Eighteen percent of the sample identified their fathers as "Canadian", and a variety of other ethnic groups comprised the remainder of the distribution. The 1980 EAS suggests that the Fort McMurray sample may not be very unique in this respect. In the Edmonton study, 28% of the sample members said their father's ethnic background was "Canadian" and 25% mentioned an Anglo-Saxon background. Thus, "Canadian" is a more common response in Edmonton, but the percentage not answering with this or an Anglo-Saxon response are about the same in the two cities.[53] As noted in an earlier chapter, Indians and Metis have become a very small minority in this resource community. The AOSERP sample reflects this since only 4% (n = 16) of the respondents were of native Canadian background. This number is simply too small to allow any detailed analyses in the following chapters.

The inter-national immigration status of this sample did not appear unusual. Seventeen percent of the respondents were first generation immigrants and 18% had at least one parent who had been born outside of the country. The 1971 Canadian census reports 15% first-generation and 19% second-generation immigrants (Kalbach and McVey, 1979:179). However, given the relative youth of this sample, we might expect a somewhat higher proportion of native-born respondents. Fort McMurray and other rapidly expanding resource towns may appear attractive to recent immigrants attempting to establish themselves in Canada.

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[53] The small percentages in each of the many other categories in both studies make detailed comparisons difficult. The 1979 EAS was not used for this comparison since it asked only about the respondent's own ethnic identification, but not about the father's ethnic origin.

People who had always lived in Fort McMurray were a tiny minority in the sample: only 3 of the 430 fit this description. Forty-one percent of the sample had been living in Alberta immediately prior to coming to this resource town. This sample estimate matches the local census results (discussed in chapter three) which show that the proportion of migrants from within Alberta declined to around 40% following the Syncrude construction boom. Within the sample, another 22% came from other western provinces, and about 15% had migrated from Ontario. Newfoundland supplied 6%, and 4% of the sample members were from Quebec. A total of 31% of the respondents stated that they had lived in "other remote resource communities". Respondents themselves categorized their previous communities of residence, so there may be some definitional ambiguity here. Nevertheless, we have some evidence that a majority of the current residents of this single industry community have migrated from urban and rural regions characterized by very different labour markets.

Sample members had lived in Fort McMurray an average of 3.2 years (s = 3.9). Among those who reported when they had arrived (n = 418), 29% had been in the community for a year or less. An additional 23% had lived in Fort McMurray between one and two years. This suggests that a majority of residents had arrived after the peak of the Syncrude construction boom. Only a few (7%) could be considered real "old-timers", having lived in Fort McMurray for more than a decade. These survey data describe a population dominated by recent migrants. Comparisons to the 1979 EAS show that the Edmonton sample members in that study had lived in their community an average of 18.5 years. A similar 1979 study in the predominantly agricultural Cold Lake region of Alberta showed that residents (rural and small town combined) had been living in the area an average of 20.6 years (Gartrell and Krahn, 1982:8).

Although 58% of the sample members had occupied single detached dwellings in their previous community, only 29% were living in such dwellings when interviewed. Mobile homes (26%), semi-detached dwellings (25%), and apartments (20%) were almost equally prominent in the community in 1979. The short average length of time in the community is obviously the major reason why respondents had lived in their current dwelling only an average of 1.8 years (s = 2.6), but it is still noteworthy that 60% had moved at least once following their arrival in Fort McMurray. This may be a reflection of difficulties encountered in finding satisfactory housing. Despite the short length of residence in the community and in their dwellings, these sample members appeared to be as integrated into social networks of friends, relatives and neighbours as are more typical Canadian urban residents (Gartrell et al., 1980a:285).

Almost all of the men interviewed in the 1979 survey (97.5%) were employed. One of the 198 male sample members was a student, and four (2%) were unemployed. Thus, the male labour force participation rate (LFP) was 99.5%. In June of 1979, the unadjusted male unemployment rate in Alberta was 2.7% and the provincial male LFP rate was 85.2% (Statistics Canada, 1979:19). The high labour force participation rate and low unemployment rate among men in Fort McMurray reflect both the relative youth of the population and the opportunities available in the local labour market.

A similar conclusion about opportunities for women cannot be drawn from employment data obtained from female sample members. Only 48.5% of the women in the sample said they were working at the time of the interview, and 8% said they were unemployed (out of work and looking for work), making the local female LFP rate 56.5%. Forty-one percent of the women in the sample reported their employment status as "housewife" and the remainder were either students or retired. The Alberta female LFP rate in June of 1979 was similar (54.9%), but the provincial unadjusted female unemployment rate was only 4.0% (Statistics Canada, 1979:19). Women experience more difficulty obtaining work in Fort McMurray than do men. Recognizing that this is a difficulty faced by women in most communities, it is also important to note that women appear to have more difficulty finding work in Fort McMurray than do women in other parts of the province. Since many of these residents of Fort McMurray had migrated from other provinces, a more appropriate comparison might be national (unadjusted) unemployment rates. In June of 1979, these were 5.8% for men and 8.8% for women (Statistics Canada, 1979:19). From this perspective, work opportunities for men in this resource town were particularly good compared to the nation as a whole. For female migrants from across the country, Fort McMurray did not appear to provide increased employment opportunities.

In summary, the 1979 AOSERP sample contained a somewhat higher percentage of women than would be expected in this resource community at this time. Sample members were relatively young. A majority were married and many had young families. Compared to the Canadian population, these resource town residents appear relatively well-educated, but this may largely be a function of their youth. The average number of years of education of this sample of adults was lower than the average from a comparable 1979 sample of Edmonton residents. The ethnic status distribution of this sample did not appear particularly unique but, given the youth of the sample, it may contain a somewhat higher than normal proportion of foreign born residents. A large proportion (40%) of the sample had migrated to Fort McMurray from within Alberta, but the remainder were drawn from across the country. Most of these migrants had been in the community for a relatively short time but, despite this, informal and formal social participation reported by sample members seemed normal. Male labour force participation rates were higher than the provincial average while female participation rates were about normal. However, sample estimates of female unemployment rates were considerably higher than the estimates of male rates, and also higher than female rates for the province as a whole.

The similarities between this population profile and the demographic characteristics of typical Canadian resource towns are apparent. Fort McMurray has a young and relatively transient population although the community appears to have progressed beyond the unsettling construction stage era. Single residents are not highly over-represented. Families with young children, frequently living in mobile homes or multiple dwelling housing complexes, are the norm. Residents have been drawn from across the country and most have lived in this single industry community for only a short time. The majority of the jobs in the community are held by men. Unemployment among men is unusual, but it is higher than normal among women. This provides a partial answer to the question about unequal distribution of employment opportunities. The analyses in the next chapter address the question more directly.

VI. Migration and Occupational Mobility

A. Introduction

Employment opportunities attracted most current residents to Fort McMurray. Some came north because they were transferred, some gave up jobs elsewhere and arrived without any guarantee of work, and still others were unemployed immediately before moving. The major emphasis in this chapter is on the occupational changes accompanying migration, but pre- and post-migration patterns are also examined. It is important to note that a study such as this cannot examine the fortunes of a representative sample of migrants to this resource town. There is no way of obtaining information from individuals who arrived and left again, with or without having obtained employment. However, we can examine the occupational careers of a random sample of "stayers".

In chapter five, I put forward the general propositions that this community had offered chances for status attainment, that these chances were primarily in the local core sector, and that not all population sub-groups and migration cohorts had equal access to these opportunities. A series of more detailed hypotheses about the influence of migration on the nature of work and stratification in this resource town were also presented. A large number of these hypotheses are examined in this chapter, the most central ones being:

1. Fort McMurray labour force members have experienced high levels of pre-migration unemployment and job instability;
2. instrumental motivations influenced the decision to migrate;
3. migration allowed occupational status improvements, and also upward across-sector mobility for many Fort McMurray workers;
4. individuals leaving periphery sector employment, those with unstable work histories, the less educated, and women are less likely to have a job arranged before migration, less likely to be employed by the local core sector oil companies, and less likely to have experienced occupational status improvements or across-sector upward mobility;
5. "old-timers" and those cohorts arriving after the Syncrude construction boom would have benefitted less, according to these criteria;

6. oil company employees are more likely to have experienced further occupational mobility within Fort McMurray; and
7. the effects of education on status attainment are greater for those employed in the core sector.

These hypotheses are tested and discussed in a sequence that would perhaps parallel the experiences of an individual who migrated to take employment in Fort McMurray. Thus, employment histories and patterns of status attainment are examined before migration motives and experiences. The nature of the occupational structure into which migrants moved is then considered. Finally, the amounts of occupational status change and inter-sectoral mobility surrounding and following migration are considered, as are the effects of education on migration-related status change.

The question of whether migrants to resource towns are being occupationally as well as geographically mobile is interesting in itself. It becomes more interesting when it is conceptualized within a framework that views a booming resource town as an expanding core sector labour market. But the question also parallels and extends some of the issues addressed in the extensive Canadian research literature on occupational mobility and status attainment. A short review of that literature follows.

B. The Study of Occupational Mobility and Status Attainment

Occupational mobility has attracted the attention of many North American and European sociologists for the last few decades. Mobility studies are used to support the general thesis that industrialization has created more diversified and less restrictive occupational structures. The subject is also central to the argument that the combination of an industrial capitalist mode of production and a democratic political system makes individual achievement the primary determinant of social position. Alternatively, critics of such societies can use occupational mobility data to demonstrate that ascribed social status continues to be transmitted from generation to generation. In addition, social mobility has been described as a process which can both integrate and disrupt modernizing societies (Tyree et al., 1979:410). Thus, this topic is central to studies of industrialization, of stratification, and of societal integration.

Sorokin (1927) was probably the first sociological theorist to address the subject at length,[54] but the first large-scale empirical examination of occupational mobility was undertaken by Lipset and Bendix (1959). Their method was to examine occupational changes (primarily manual to non-manual moves) within individuals' careers and between generations (comparing fathers' and sons' occupations). This seminal study led to a large number of replications as researchers compared the relative permeability of occupational structures in different countries (Matras, 1980). More recently, some of these studies have been drawn together to provide a data base for cross-national studies of social mobility in which nation-states are the unit of analysis (Tyree et al., 1979). This social mobility research tradition also generated a companion literature containing discussions of innovative techniques for the analysis of mobility tables (e.g. Goodman, 1969; Duncan, 1979; Clogg, 1981; Yamaguchi, 1983).

In 1967, Blau and Duncan published The American Occupational Structure, an extremely influential study of occupational mobility which encouraged a vast number of replicating and extending studies. Blau and Duncan's (1967) innovation was the status attainment model in which Duncan's (1961) occupational status scale was used as the final dependent variable in a path analysis. The basic attainment model contained estimates of the effects on current occupational status of the status of the individual's first job, of his education, and of his origin status (father's education and occupational status). The "Wisconsin status attainment model", as Campbell (1983) labels it, has added a social-psychological dimension to this research with its more detailed emphasis on the effects of family background, academic ability, and individuals' aspirations. Sewell et al. (1969) and Sewell and Hauser (1975) are two of the many examples of work in this tradition.

Canadian researchers, particularly John Porter and his colleagues and students, were also interested in occupational mobility and status attainment. Porter (1965, 1974) clearly recognized the value of comparative research in which inter-national and intra-national differences in mobility opportunities could be explored. A major problem faced by Canadian researchers was the absence of national survey data on Canadians' occupational careers. Early studies in this area had to rely on data from individual cities

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[54] Goldthorpe (1980:4-13) discusses the views of social mobility held by other early sociological theorists, including Marx and Michels.

(e.g. Cuneo and Curtis, 1975), from specific regions (e.g. Turrittin, 1974), and from national surveys designed for other purposes (e.g. Goyder and Curtis, 1977). Hence, the 1973 National Mobility Study which gathered occupational information from over 44,000 Canadian adults was undertaken to correct this problem (Boyd and McRoberts, 1974).

This study was designed as a replication of Blau and Duncan's (1967) study (Pineo, 1981:618), with allowances for comparisons of French-English differences rather than black-white differences as in the American survey. Pineo and Porter's (1967) occupational prestige scale had been used by Blishen and McRoberts (1976) to estimate occupational status scores, similar to those produced in the U.S.A. by Duncan. These "Blishen scores", attached to the occupations reported by the thousands of respondents in the 1973 mobility study, allowed comparison of Canada's status attainment model with the American model. The coefficients in the basic two-generation model were very similar (Pineo, 1981:625).

Before the 1973 mobility data became available, it was necessary to argue that the definitive statement on the Canadian pattern of status attainment must await findings from a truly national survey (Pineo, 1976). Since that time, analyses of the 1973 data have begun to appear (McRoberts et al., 1976; Boyd et al., 1981; Boyd, 1982). The many studies done with these and other survey data have produced a Canadian literature which contains comparisons of mobility opportunities and processes across national boundaries (Boyd et al., 1980; McRoberts and Selbee, 1981), by gender (Cuneo and Curtis, 1975; Marsden et al., 1975; Boyd, 1982), across generations (Goyder and Curtis, 1977; Boyd et al., 1980), among immigrant groups (Richmond, 1964; Boyd et al., 1980), between French and English Canadians (Turrittin, 1974; Cuneo and Curtis, 1975; McRoberts et al., 1976), and among other ethnic groups (Ornstein, 1981). There is extensive reliable evidence that status attainment processes favour men over women, English Canadians over French Canadians, and the native-born over immigrants. Hence, it may be useful to resume examination of other types of differences in mobility opportunities, and of alternative mobility routes (Richardson, 1977:422). In such an exercise, the 1973 national mobility data can become a national benchmark against which to evaluate regional or local findings.

One such alternate mobility route was noted by Blau and Duncan (1967:272) in their discussion of the relationship between migration and mobility. Canadian researchers have suggested that there are regional variations in social mobility opportunities (Boyd and McRoberts, 1974:19; Turrittin, 1974:183; Forcese, 1980:28), and that certain regions offer improved mobility chances to specific ethnic groups (Blishen, 1970; Tepperman, 1975:148; Boyd et al., 1980:224). However, there has been little systematic study of such differences in Canada.[55] In this chapter, a comparison of pre- and post-migration employment is presented. The logic of this analysis is similar to that in Richmond's (1964) examination of pre- and post-move jobs of immigrants to Canada. His emphasis was on "the pattern of intragenerational mobility consequential upon the migration itself" (1964:54). The emphasis here is on both the consequences of individuals' migration and the expansion of a resource town's core sector labour market.

Status attainment research has been labelled by some of its critics as atheoretical, as a "method in search of a substance" (Coser, 1975).[56] This research tradition has also been criticized for its failure to examine the social and economic structures which contain and constrain individual workers. The emphasis on occupational status and on individuals' career paths produces a highly individualistic model of work in industrial society.[57] Status attainment research can also be criticized for its tendency to generalize from analyses of only "normal" labour force participants. In the interests of comparability, the young and the old, those not in the wage labour force (e.g. farmers), part-time workers and the unemployed, immigrants, and those who might not report their parents occupations or educations are frequently excluded from analyses purporting to describe the Canadian or the American occupational structure.[58] This study of mobility opportunities in a Canadian resource town is somewhat less open to such criticisms. The analysis is clearly set within

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[55] Grusky (1983) presents an interesting analysis of status attainment differences across regions of Japan.

[56] Such an opinion is encouraged when researchers involved in the design of the 1973 National Mobility Study remember that "no over-arching theoretical expectation existed to unify the work" (Pineo, 1981:618)

[57] Goldthorpe (1980:1-37) provides one of the better discussions of "social mobility and social interests" in which he argues that there is not a necessary link between the study of this subject and a particular ideological position. Horan (1978), on the other hand, argues that status attainment research has an implicit functionalist bias, and that it follows in the tradition begun by Davis and Moore's (1945) classic functionalist explanation of social stratification in modern society.

[58] Examples are easy to find. After excluding women, American blacks, and Canadian foreign-born workers from the analysis, McRoberts and Selbee (1981) conclude that there are no differences in occupational mobility patterns between Canada and the U.S.A. Boyd (1982) compares male and female mobility patterns with a sample of native-born men and women aged 35 to 49 who are employed full-time. As Boyd et al. (1981:659) note, the decision to exclude women employed part-time alone eliminates about 30% of the women in the labour force.

a theoretical framework (the labour market segmentation model) which emphasizes social and economic structures within which individuals pursue their careers. Also, the analysis specifically focuses on the mobility experiences of the unemployed, of migrants and of other groups typically left out of status attainment studies.

C. Survey Results

Employment Histories of Migrants

Most (69%) of the current labour force members (both employed and unemployed sample members) reported a total of five or fewer full-time jobs in their occupational career. But a further 19% had held between six and ten jobs and the remainder stated that they had held eleven or more full time jobs. The average was 5.39 full-time jobs, [59] which appears fairly high given the relative youth of the sample members. Much of this job-changing had occurred prior to migration to this resource town since the average number of full-time jobs held in Fort McMurray was 1.74.

Fort McMurray does not appear to be a community where many work careers are begun, since only 44 of the sampled labour force members obtained their first full-time job in this community. Among these individuals, only eight (18%) obtained this first job with one of the core sector oil companies. Seven (16%) were hired by a government agency, including three teachers. The remainder (66%) found their first job in the local secondary labour market. A large majority of the current labour force members (62%) had held only one job since arriving, and only 16% had held more than two jobs in this community. The *currently employed* sample members had held their present jobs an average of only 1.7 years. Over one-half (55%) had begun their present job within the previous year.

Respondents who had held more full-time jobs had also been unemployed more often (r = .48). Current labour force members in the 1979 Fort McMurray sample reported being unemployed, in the official sense (i.e. out of work and looking for work), an average of 1.87 times. [60] This average is somewhat deceptive since over one-half (52%)

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[59] Five of the sample members answered "many" to this question and were assigned a score of 12 which was the modal response for those reporting 10 or more full-time jobs.
[60] Four respondents answered "many" to this question and were assigned a score of five.

said that they had never been unemployed, and 21% reported only one period of unemployment. A group of 88 respondents (27% of the labour force members), reporting an average of over five periods of unemployment each, are responsible for inflating this group average. This resource town appears to attract a substantial number of migrants with relatively unstable work histories, although such a label cannot be attached to a majority of labour force members resident in the community in 1979. A random sample of construction workers during the Syncrude construction boom might have revealed considerably higher levels of employment instability.

In Tables 2 and 3 current labour force members are separated into four groups according to the length of time since they began their first full-time job. [61] Differences by gender, age, marital status, education, pre-move occupational status, pre-move sectoral location, region of previous residence and length of residence in Fort McMurray are then examined within these four labour force cohorts. Tables 2 and 3 also contain comparison data from the 1980 and 1982 Edmonton Area Studies which included questions on number of full-time jobs and number of periods of unemployment, respectively.

As expected, within both city samples in Table 2, years in the labour force is positively and significantly ($p < .01$) associated with the reported number of full-time jobs. Other things being equal, we would also expect a higher average number of full-time jobs from the Edmonton sample, since the average age of these labour force members is considerably higher. Instead, we find that Fort McMurray labour force members had held a slightly higher average number of jobs (5.47) than had Edmonton labour force members (5.21), although the difference is not statistically significant ($p > .05$). Examination of some of the many possible within- and across-sample comparisons in Table 2 allows us to isolate the sub-group of Fort McMurray labour force members whose history of frequent job changing is responsible for the relatively high sample average.

In both samples, men had held more full-time jobs than had women, but the most important difference between the two samples is within the zero to five years in the labour force category. Among these recent labour force entrants, the Fort McMurray

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[61] Data on the year when the respondent began her/his first full-time job was not available for about 15% of these labour force members, so they are excluded from the analyses in Tables 2 and 3. This group included both older respondents who could not remember the year they began their first job, and younger (mainly female) respondents who, while in the labour force (i.e. looking for work), had not yet obtained their first full-time job.

Table 2: Number of full-time jobs by years in the labour force by selected variables by city of residence: all current labour force members.

	Fort McMurray, 1979 ($\bar{x}$ = 5.47; n = 280)				Edmonton, 1980 ($\bar{x}$ = 5.21; n = 322)			
	Yrs. since beginning 1st job				Yrs. since beginning 1st job			
	0 - 5	6 - 10	11 - 15	16+	0 - 5	6 - 10	11 - 15	16+
Gender:								
Male	5.93	5.78	5.68	8.19	3.50	5.14	5.77	7.49
Female	2.71	3.89	4.33	5.31	2.67	4.29	4.33	4.35
Age:								
<30 years	4.09	5.74	5.37	----	2.96	5.09	5.89	----
30 - 44	2.83#	3.28	5.14	7.05	3.33#	3.55#	5.14	6.22
≥45 years	1.00#	----	----	9.44	----	2.00#	2.33#	6.21
Marital status:								
Single	4.87	4.91	4.75	10.90	2.32	4.54	6.57	5.32
Married	2.88	5.14	5.33	7.05	3.72	5.05	4.43	6.65
Education:								
<12 years	3.21	5.83	5.27	9.32	6.00#	6.67	2.67#	6.54
12 years	5.95	4.29	4.68	6.13	2.77	4.64	4.23	5.14
>12 years	3.27	5.34	5.56	6.83	2.31	4.35	6.29	6.25
Pre-move occupational status:								
SES < 45.0	6.18	5.78	6.21	7.97	----	----	----	----
SES ≥ 45.0	2.95	4.39	5.00	7.00	----	----	----	----
Pre-move sectoral status:*								
Periphery	5.69	6.38	4.93	6.85	3.77	4.29	4.79	5.79
Core	4.00	4.00	6.19	7.59	2.22	5.57	5.46	6.54
Previous residence:								
in Alberta	3.00	4.11	5.65	8.09	2.52	5.91	6.33	6.79
elsewhere	4.69	5.41	4.68	6.61	3.33	4.26	4.93	5.61
Length of residence in city:								
<1 year	5.21	5.40	4.29	9.70	3.29#	3.33#	5.67#	4.00
1 - 2.5	3.61	4.93	6.53	6.80	2.78#	4.73	7.21	10.33#
>2.5 years	2.38	4.94	4.85	7.23	2.97	4.94	4.49	6.15
TOTAL	3.94	5.07	5.21	7.57	2.98	4.83	5.23	6.17

[#] Less than 10 cases in this cell. No data are presented if the cell contains only one case.

[*] Current sectoral status is used for the Edmonton sample of labour force members. This variable is a crude approximation of Boyd and Humphreys' (1979) typology, since only an 11 category industry variable and a 22 category occupation variable are available in this data set.

male-female difference (5.93 versus 2.71) is larger than the Edmonton gender difference (3.50 versus 2.67). In both samples, younger workers have held more full-time jobs than have older workers with equivalent labour market experience but, again, the difference among those with zero to five years in the labour force is much larger in the Fort McMurray sample. In both samples, there is little difference in the average number of full-time jobs between single and married respondents with equivalent labour market experience, except for the zero to five years category in the Fort McMurray sample. Here, single respondents have held an average of 4.87 jobs compared to the average of 2.88 for married respondents.

Continuing to focus on this group of most recent labour market entrants, we can see that those in the Fort McMurray sample who reported 12 years of education had changed jobs much more often (an average of 5.95 jobs) than had either more or less educated labour force members. A similar pattern does not exist in the Edmonton sample. In the Fort McMurray sample, the least experienced workers from outside of Alberta reported considerably more full-time jobs (an average of 4.69) than did those who had migrated to this resource town from within Alberta (an average of 3.00 jobs). Again, the difference is not as large in the Edmonton sample (3.33 versus 2.52). Finally, still comparing differences within the first column of both samples displayed in Table 2, it is apparent that recent migrants to Fort McMurray had held many more full-time jobs than had earlier arrivals. The same strong relationship is not evident in the Edmonton sample.

This last pattern of differences might mean that in 1978 and 1979 Fort McMurray began to attract migrants with unstable work records. The more probable explanation is that individuals with such employment histories are continually attracted to resource towns like Fort McMurray, but they also are unlikely to remain for more than a short time. Thus, earlier migration cohorts sampled in the 1979 survey would already have lost many of their more transient members. The demographic characteristics of such highly transient migrants have already been noted. Young, single males with no more than a high school education, and with only a few years experience in the labour force, often from outside of the province, are likely to have held a high number of full-time jobs. These data allow us to deduce that resource towns attract such workers while failing to retain many of them as long-term residents.

Table 2 also contains some information pertinent to labour market segmentation research questions. In both city samples, periphery sector employment is associated with more full-time jobs for those with limited labour force experience. Alternatively, among those with longer labour force experience, core sector employment is associated with a larger number of full-time jobs. In short, job changes may mean different things and be more common at different points in individuals' careers in the primary and secondary labour markets. In the former, job changes appear to be relatively less frequent early in a career and, although these data cannot demonstrate this, may mean more upward rather than lateral movement.

In neither the Fort McMurray nor the Edmonton samples is length of time in the labour force significantly ($p > .05$) associated with number of periods of unemployment (Table 3). While "time at risk" does not explain variations in unemployment experiences, those leaving periphery sector and lower-status jobs when migrating reported being unemployed more often. In addition, men, younger, and non-married labour force participants, and the less educated were more likely to have been frequently unemployed. These differences are again accented among the Fort McMurray sample members who were recent labour force entrants. Within this group, younger, single, male respondents with high school educations who had come from outside of the province and within the last year, reported the highest average number of periods of unemployment. These are, again, the stereotypical young transient workers who are frequently found in boom towns. Presumably, many of them would no longer have been resident in the community a year later.

Patterns of Status Attainment

The analyses above have examined the employment instability and job-changing patterns of migrants to a resource town. More typical status attainment research designs compare origin and destination statuses, but smooth over any irregularities between. Both approaches are informative, but about different subjects. Table 4 below allows an examination of the amount of status change across individuals' careers and within segments of these careers. Tables 5 and 6 focus on the determinants of occupational status in the classical status attainment research tradition. However, Tables 2 and 3 have

Table 3: Number of times unemployed by years in the labour force by selected variables by city of residence: all current labour force members.

	Fort McMurray, 1979 ($\bar{x}$ = 2.01; n = 281)				Edmonton, 1982 ($\bar{x}$ = 1.77; n = 364)			
	Yrs. since beginning 1st job				Yrs. since beginning 1st job			
	0 - 5	6 - 10	11 - 15	16+	0 - 5	6 - 10	11 - 15	16+
Gender:								
Male	3.61	3.09	1.21	2.20	2.36	2.85	4.26	1.75
Female	0.96	1.74	1.56	1.50	0.90	1.00	1.31	0.67
Age:								
< 30 years	2.12	2.68	2.00	----	1.60	2.21	2.56	----
30 - 44	0.50#	2.44	1.02	1.91	1.07	1.14	3.38	2.42
≥ 45 years	----	----	----	2.58	----	----	0.17#	0.69
Marital status:								
Single	2.95	2.86	1.17	3.50	1.42	1.34	5.94	2.63
Married	0.85	2.46	1.37	1.83	1.61	2.48	1.33	0.90
Education:								
< 12 years	1.79	2.44	1.73	2.59	1.82	5.47	3.00#	1.69
12 years	3.74	2.79	1.74	2.13	1.75	0.82	1.44#	0.59
> 12 years	0.88	2.59	0.81	1.57	1.29	1.26	3.11	1.55
Pre-move occupational status:								
SES < 45.0	3.45	3.28	1.40	1.91	----	----	----	----
SES ≥ 45.0	0.95	2.33	1.28	1.36	----	----	----	----
Pre-move sectoral status:[*]								
Periphery	2.94	4.76	1.24	2.57	1.54	2.71	2.15	1.64
Core	2.00	1.06	1.44	1.29	1.47	1.36	3.44	1.20
Previous residence:								
in Alberta	1.17	2.05	1.67	2.24	----	----	----	----
elsewhere	2.60	2.77	1.03	1.95	----	----	----	----
Length of residence in city:								
< 1 year	3.15	2.32	1.14	3.80	0.38#	5.80#	3.40#	1.00#
1 - 2.5	0.94	2.52	1.21	2.60	2.04	2.38#	2.00#	0.60#
> 2.5 years	1.10	1.89	1.62	1.31	1.40	1.69	2.78	1.42
TOTAL	1.97	2.58	1.33	2.05	1.50	1.99	2.81	1.39

[#] Less than 10 cases in this cell. No data are presented if the cell contains only one case.

[*] Current sectoral status is used for the Edmonton sample of labour force members.

catalogued the career interruptions and changes of direction experienced by sample members, and the differences in such patterns across sample sub-groups. Traditional status attainment research overlooks such work experiences.

All sample members were asked to describe their current/last job, the jobs they had held immediately before and after migration to Fort McMurray, their first full-time job, and the jobs their parents had held when the respondents were about 16 years of age. All occupations but one (mother's job) were assigned socio-economic status scores from Blishen and McRoberts (1976). Since less than one-third of the sample members' mothers had been in the paid labour force at that time, a binary measure representing labour force participation is used for mothers' work.

Among current labour force members in the Fort McMurray sample, the average status score for men's present/last full-time job was 45.8, only slightly higher than the comparable female average of 44.4 (Table 4). [62] Exact comparisons to Canadian national sample averages are difficult to make since users of data from the 1973 National Mobility Study have typically worked with restricted samples. McRoberts et al. (1976) calculated an average male status score of 45.8 for full-time employed, native-born Anglophone males aged 25 to 64. Restricting the male Fort McMurray sample to those aged 25 to 64 who "grew up" in Canada (column three in Table 4), we still find that the average status score for current/last job (46.0) is almost identical to the national average. McRoberts et al. (1976) do not provide female estimates but Boyd (1982) used the same data in her analysis of gender differences in status attainment. However, she restricted her sample to native-born, full-time employed respondents aged 35 to 49. Applying such restrictions to the female labour force participants in the Fort McMurray sample reduces the sub-sample to 16 individuals. Consequently, we have little choice but to compare the average current occupational status of female Fort McMurray sample members (44.4) to the more restricted national sample average (45.2) from Boyd (1982). [63] As with the male

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[62] For purposes of comparison, some occupations receiving similar status scores (between 44 and 46) in the Blishen and McRoberts (1976) socioeconomic index are foremen in various processing industries, locomotive engineers, office machine operators, and typesetters. Low status occupations would include fishermen (18.6), logging (19.3) and shoemaking (19.9), while individuals with high status include lawyers (72.7), dentists (74.7), and sociologists (60.6).

[63] Other Canadian studies of female status attainment are not much more useful for comparison data. Cuneo and Curtis (1975) included in their sample only women aged 25 to 34 who were living in Toronto or Montreal. Marsden et al. (1975) worked with a sample of female college graduates living in Ontario.

Table 4: Respondents' and parents' occupational status and education by sex: Fort McMurray (1979) and Canada (1973).

	Averages (and sample sizes)					
	Fort McMurray (1979)			Canada (1973)		
	Women[1]	Men[2]	Men[3]	Women[4]	Men[4]	Men[5]
Occupational status present/last job	44.4 (128)	45.8 (197)	46.0 (123)	45.2	44.0	45.8
Occupational status first FT job	41.5 (126)	39.1 (190)	39.0 (118)	43.4	38.0	40.1
Occupational status father's job	39.3 (122)	39.3 (187)	36.5 (118)	35.2	34.3	35.9
Respondent's education (years)	12.5 (131)	12.4 (195)	12.2 (122)	10.9	10.3	11.6
Father's education (years)	9.5 (109)	9.4 (162)	8.6 (99)	7.3	6.9	8.5
Mother's education (years)	10.0 (111)	9.2 (156)	8.8 (92)	7.8	7.2	----
	Percentages (and sample sizes)					
Mother in labour force	32.9 (124)	30.2 (192)	24.4 (119)	18.4	13.6	----

[1] All female sample members who were in the labour force (including unemployed) at the time of the interview. Sample sizes differ due to different amounts of missing data for different questions.

[2] All male sample members who were in the labour force.

[3] All currently employed male sample members aged 25 to 64 who "grew up" in Canada.

[4] Respondents in the 1973 National Mobility Study who were native-born, full-time employed, and aged 35 to 49; from Table 1 in Boyd (1982).

[5] National Mobility Study Anglophone respondents who were native-born, full-time employed, and aged 25 to 64; from Table 9 in McRoberts et al. (1976).

community-nation comparison, the difference is not large enough to suggest that this resource town sample is unique in its current average occupational status.

Equivalent current levels of occupational status do not preclude different amounts of status change in the course of a career. Fort McMurray respondents may have begun their occupational careers at either above or below the average origin status of the Canadian adult population. However, simple subtraction of the status of the first job from that of the present/last job again reveals no important differences between the Fort McMurray sample of migrants and the national sample (Table 4). Men in the community sample had moved upward an average of about seven points on this status scale, compared to a male career mobility average of about six points in the national sample. Similarly, female community sample members had moved up an average of about three status points in the course of their careers compared to about two points for women in the national sample. Table 4 also reveals that in the Fort McMurray sample, as in the national sample, women began their careers with somewhat higher status first jobs but experienced less upward career mobility than did men. The initial occupational status advantage is lost over the course of women's careers, principally because of their employment in occupational enclaves with "poorly developed career trajectories" (Boyd, 1982:9). Labour market segmentation theorists would hypothesize that these gender differences reflect the over-representation of women in secondary labour markets.

Men and women in the Fort McMurray sample of labour force participants reported essentially equivalent educations for themselves (about 12 years) and also for their parents (Table 4). The national sample members' reports of their own and their parents' educations (from Boyd, 1982) are considerably lower. This is largely due to the exclusion of younger respondents in Boyd's analysis. Since the Fort McMurray sample is unusually young, the difference probably reflects changes over time in the average amount of education received by Canadians. Similarly, the community-nation differences in the average amount of *inter-generational* status change for both men and women, in the average occupational status of fathers, and in the percentage of mothers in the paid labour force, probably demonstrate long-term shifts in the Canadian occupational structure. Confirmation of this explanation is provided by McRobert et al.'s (1976) male estimates (column six in Table 4) from the national sample data. These estimates are derived from men aged 25 to 64 (rather than only those 35 to 49) and resemble more closely the Fort McMurray male estimates. Hence, we can conclude that these migrants to a resource town are not unusual with respect to total amounts of intra- and inter-generational occupational status change.

While the Fort McMurray sample is not unique in terms of average current occupational status and average career mobility, its members might still have experienced significant differences in the *process* of status attainment. In Table 5 and Figure 3, a status attainment model is presented for a limited sub-sample (n = 92) of full-time employed Fort McMurray male residents aged 25 to 64 who grew up in Canada. The selective nature of the samples used in analyses of the 1973 National Mobility Study data require such restrictions in the Fort McMurray sample if community-nation comparisons are to be made. Table 5 and Figure 3 also contain estimates of an equivalent national model for native-born Anglophone men of similar age which was estimated by McRoberts et al. (1976). Boyd's (1982) estimates of an extended female status attainment model are based on a sample so restricted that comparisons with an equivalently limited Fort McMurray sample of employed women were not possible. Consequently, community-nation comparisons for women are not attempted. Instead, Table 6 displays status attainment models estimated for both sexes with data from all labour force participants in the Fort McMurray sample.

Using McRoberts et al.'s (1976) results as a national benchmark, we can make some generalizations about the status attainment experiences of these male migrants to Fort McMurray. The intra-generational portion of the Fort McMurray status attainment model (Figure 3) appears similar to the national model. Both son's education and first job have a moderate net effect on current occupational status, while son's education has a strong effect on the status of the first full-time job. The unstandardized regression coefficients (Table 5) suggest that the effects of first job on present job may be somewhat stronger in the national sample (b = .402) than in the community sample (b = .314). However, the effects of son's education on his current job (b = 1.67 and 1.59) and on his first job (b = 2.73 and 2.78) are very similar. Large confidence intervals around estimates from a sample of 92 demand cautious interpretations of apparent differences. Thus, the conservative conclusion is that this sample of Fort McMurray male workers differs little

Table 5: Basic status attainment model for men: regression results for Fort McMurray (1979) and Canada (1973).#

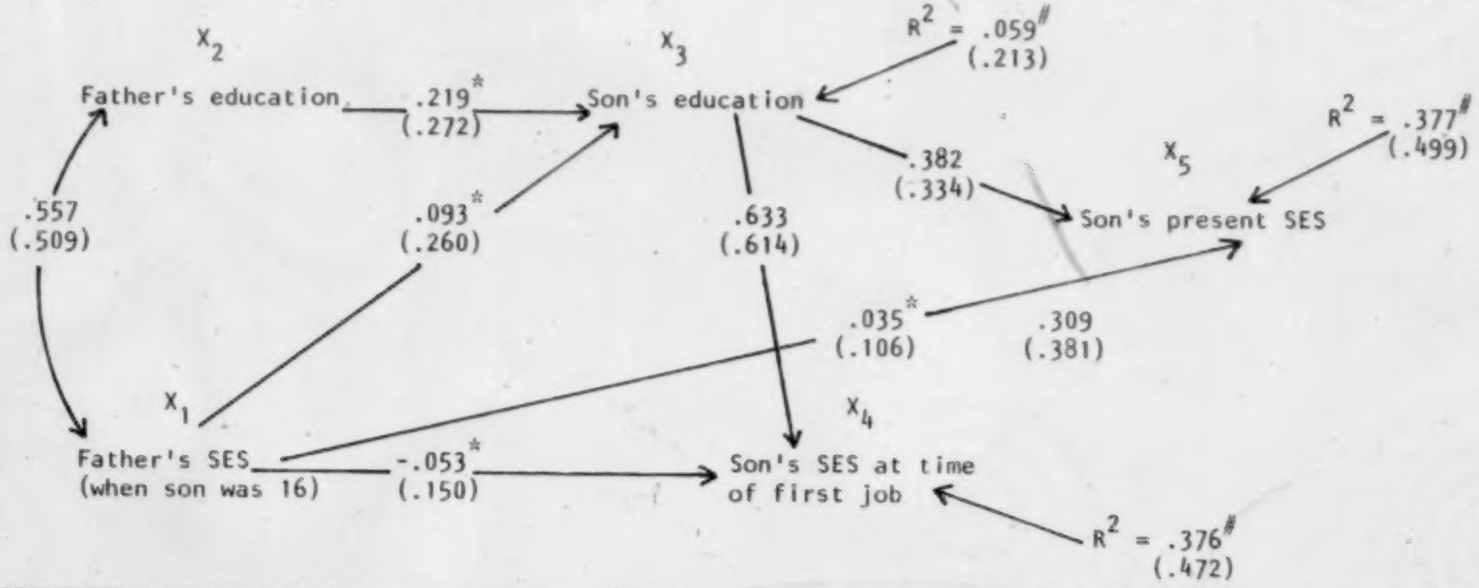
		Dependent variable					
		Education (x_3)		First job (x_4)		Current job (x_5)	
	Independent variables	Fort McMurray	Canada	Fort McMurray	Canada	Fort McMurray	Canada
Metric coefficients	Father's occupation (x_1)	.020* (.026)	.061	-.049* (.079)	.158	.033* (.080)	.118
	Father's education (x_2)	.156* (.087)	.254	----	----	----	----
	Respondent's education (x_3)	----	----	2.73 (.365)	2.78	1.67 (.473)	1.59
	Respondent's first job (x_4)	----	----	----	----	.314 (.108)	.402
	Intercept	10.43	7.24	7.74	2.22	11.40	6.99
Standardized coefficients	R^2 @	.059	.213	.376	.472	.377	.499
	Father's occupation (x_1)	.093*	.260	-.053*	.150	.035*	.106
	Father's education (x_2)	.219*	.272	----	----	----	----
	Respondent's education (x_3)	----	----	.633	.614	.382	.334
	Respondent's first job (x_4)	----	----	----	----	.309	.381

The Fort McMurray sample of n = 92 contains currently employed males aged 25 to 64 who "grew up" in Canada. The national sample contains full-time employed Anglophone males between the ages of 25 and 64 who were born in Canada (from Table 9 in McRoberts et al., 1976).

* Coefficient is not statistically significant at the .05 level. Smaller but statistically significant coefficients from the national sample are a result of the much larger sample size (approximately 9000). Standard errors are displayed in parentheses.

@ R^2 is adjusted for small sample size in the Fort McMurray equations.

Figure 3: Basic status attainment model for males: Fort McMurray (1979) and Canada (1973).@


X_2
Father's education
.219*
(.272)
X_3
Son's education
R^2 = .059#
(.213)
.557
(.509)
.093*
(.260)
.633
(.614)
.382
(.334)
X_5
Son's present SES
R^2 = .377#
(.499)
.035*
(.106)
.309
(.381)
X_1
Father's SES
(when son was 16)
-.053*
(.150)
X_4
Son's SES at time
of first job
R^2 = .376#
(.472)

@ Fort McMurray sample (n = 92) consists of full-time employed males, aged 25 to 64, who "grew up" in Canada. The national sample contains approximately 9000 native born, full-time employed Anglophone men aged 25 to 64. Standardized coefficients are presented with the national estimates in parentheses.

* Coefficients not significantly larger than zero ($p > .05$). Smaller, but statistically significant coefficients for the national sample result because of its larger size.

# R^2 values adjusted for small sample size.

from an equivalent national sample in its pattern of intra-generational status attainment.

Although they are not large, there are some differences in the process of status ascription (inter-generational mobility). The effects of fathers' occupational status and education on sons' education and job statuses are weaker in the community sample (Table 5). Thus, the considerably lower levels of "variance explained" in the several dependent variables of the community model allow the tentative conclusion that linkages between status origins and present status may be slightly weaker among migrants to Fort McMurray than they are in the national sample.[64]

There are a number of plausible explanations for this finding of relatively less continuity between status origins and current status. Migration to a rapidly growing resource development community may reflect a somewhat unconventional approach to occupational careers and to life in general. In fact, 36% of the male respondents in this survey reported that they had also lived in other "remote resource communities". Hence, we might expect less than normal continuity between socio-economic background and present status. This conjectural interpretation obviously requires further detailed analysis of migrants to resource towns and migrants in general, although it does fit with the suggestions that "the north" and other "frontiers" attract adventurous, non-conforming individuals.

Another difference between more typical members of the Canadian labour force and this Fort McMurray sample may be the latter's (or at least its younger members) history of greater employment instability. This, in turn, might be a consequence of pre-migration employment in secondary labour markets. Labour market segmentation theorists have argued that, in this disadvantaged sector, "normal" status attainment processes are less likely to be operating. However, status may also be less likely to be transferred inter-generationally if the individual is employed in the periphery sector. Fathers' status might be less influential if the son is "caught" in a labour market where career mobility patterns are unpredictable. Such an explanation is offered by Boyd (1982) for her finding that status ascription is less prominent for Canadian women than for men. Her argument

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[64] Since maintaining comparability with McRobert et al.'s (1976) analysis limited the male sample size to 92, the same model was estimated for all male labour force participants in the Fort McMurray sample (n = 150). Missing data, primarily for fathers' education, still eliminated a substantial number of the 197 male labour force members from this analysis. The changes in the coefficients were not large and did not alter my conclusions.

that the gender segregation of occupations leads to women being over-represented in occupational ghettos with "limited career trajectories" (1982:22), and where parents' status can have only limited influence, is essentially a thesis of labour market segmentation. Unlike segmentation theorists, however, Boyd does not identify these occupational enclaves with criteria other than the typical gender of their occupants.

The status attainment process for male and female labour force participants in the Fort McMurray sample is examined with a more fully developed model in Table 6. Estimates of the effects of maternal status on respondents' education and occupational status are included, and non-significant paths are retained. Age and national origin sample restrictions are not used so the estimates are based on a larger proportion of the total Fort McMurray sample (139 men and 97 women). This also makes direct comparisons of Fort McMurray coefficients with Boyd's national estimates somewhat problematic. Her analysis was restricted to individuals aged 35 to 49 whereas a full 70% of the Fort McMurray sample members were under 35 years of age when interviewed.

Several tentative conclusions can be drawn from examination of the regression equations in Table 6:

1. For both men and women in this sample of resource town residents, education and first job status are the major determinants of present status. In other words, status ascription operates primarily indirectly via education and first job status, as is also the case in the national data (see Figure 3 for men and Boyd, 1982 for women).
2. As in Boyd's (1982) analysis of national data, the addition of mothers' education and labour force experience to the model can help explain variations in educational and status attainment, particularly for female respondents. Mothers' education, for example, has a significant positive net effect on daughters' education (b = .243) and first job status (b = .995).
3. There is also some evidence of a same-sex ascription pattern which again replicates Boyd's (1982) findings. Fathers' occupational status has a moderate size direct effect on sons' (b = .127) but not daughters' present status (b = .029), while mothers' labour force experience has a much more pronounced effect on daughters' (b = 3.537) than on sons' current status.
4. Unlike Boyd's (1982) national sample results, we do not find that the process of

Table 6: Extended status attainment model by gender: Fort McMurray, 1979.#

	Independent variables	Dependent variable					
		Education		First job		Current job	
		Women	Men	Women	Men	Women	Men
Metric coefficients	Father's occupation	.052* (.019)	.019 (.020)	.080 (.095)	-.056 (.077)	.029 (.093)	.127 (.078)
	Mother working	-.725 (.493)	-.255 (.578)	-2.684 (2.425)	1.622 (2.204)	3.537 (2.402)	-1.535 (2.249)
	Father's education	.007 (.075)	.140 (.082)	-.423 (.364)	.500 (.315)	.101 (.365)	-.316 (.324)
	Mother's education	.243* (.083)	-.074 (.089)	.995* (.422)	-.592 (.341)	.314 (.427)	.216 (.351)
	Respondent's education	----	----	2.548* (.507)	2.127* (.329)	1.825* (.564)	1.808* (.384)
	Respondent's first job	----	----	----	----	.266* (.103)	.283* (.088)
	Intercept	8.171	11.235	1.617	15.308	2.301	7.736
	Adjusted R²	.210	.023	.320	.246	.356	.316
Standardized coefficients	Father's occupation	.328*	.100	.096	-.066	.034	.142
	Mother working	-.146	-.039	-.103	.058	.134	-.051
	Father's education	.012	.205	-.142	.169	.033	-.100
	Mother's education	.328*	-.092	.256*	-.171	.080	.059
	Respondent's education	----	----	.486*	.491*	.344*	.390*
	Respondent's first job	----	----	----	----	.263*	.265*

All sample members who were in the labour force at the time of the interview (139 men and 47 women).

* Coefficient is statistically significant at the .05 level. Standard errors are displayed in parentheses.

status ascription is less important for women than for men. With few exceptions, the effects of parents' education and employment status on womens' education, first job, and present job are equal to or larger than the comparable effects for male respondents. A reflection of this is the amount of "variance explained" at each of the steps in the status attainment model. In the Fort McMurray sample, this statistic is always larger for the female equations (Table 6), while in Boyd's (1982:19) national sample analysis the opposite is the case.

One explanation of this last community-nation difference might be that the occupational careers of female migrants have been influenced relatively more by status origins than is usually the case. Alternatively, the careers of male migrants may have been influenced relatively less than normal by parents' status. The male community-nation comparisons in Table 5 and Figure 3 support the latter explanation. Again, it is possible that pre-migration employment in secondary labour markets is a relevant factor. Status origins can be more influential in determining status destinations in core sector employment arenas where occupational mobility is systematic and typically upward. But with the exception of this community-nation difference, the several status attainment comparisons examined above suggest only minor career differences between these migrants and the larger Canadian labour force.

Reasons for Moving

In previous chapters, I reviewed research which examined the economic and employment motivations of migrants to Canadian resource towns. Additional but less wide-spread reasons for moving included desires to get away from restrictive social structures and urban environments. The 1979 survey of Fort McMurray residents did not include a question about migration motives, but sample members in Matthiasson's 1969 study were asked to state their first and second most important reasons for migrating. Only 48% listed two reasons. Matthiasson (1971:20-22) combined the many different responses into nine general categories, one of which (employment) accounted for 77% of first reasons. However, these data can be separated into more specific sub-categories, and the reclassified distribution of responses [65] can be examined within gender, age, and education categories (Table 7).

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[65] A new set of coding categories was devised when Matthiasson's original questionnaires were obtained and processed in 1979.

As Matthiasson (1971) concluded from his examination of these data, almost 80% of the sample identified some employment-related factor as their first reason for moving. Although 26% were not more specific than this, one-quarter of the sample emphasized incomes or monetary reasons, 8% had been transferred, 16% were following their spouse who had taken employment in Fort McMurray, but only 3% commented on job security, promotion opportunities, or chances for increased job training. The substantial number (25%) who mentioned incomes or money as a major migration motive appears to provide some support for the generalization that individuals hoping to make a lot of money quickly are attracted to such communities. Obviously, comparison data from other communities would be necessary to reach a more confident conclusion but we can note that money/income itself was mentioned much more frequently (25%) than were career opportunities (3%).

Almost identical proportions of women and men mentioned monetary or employment reasons for moving, but a full 30% of the women simply reported that they came to Fort McMurray because their husbands had taken a job in the community (Table 7). This is not particularly unusual, given the nature of the gender-based division of labour in our society. Nevertheless, it does highlight a feature of the labour markets of single industry communities which other observers have noted. These communities provide primarily male employment opportunities. Analysis of the 1979 survey data in this and subsequent chapters will allow a more comprehensive examination of this resource town stereotype.

Table 7 also reveals that income-related reasons for migration decline with age and with education. More educated sample members are more likely to report a job transfer or a career-related reason for moving. Such a finding would be congruent with the labour market segmentation proposition that core sector workers (who are usually better educated) are more likely to be moving through career progressions when changing jobs. It would also be predicted by human capital models of labour market operation, so these 1969 survey data do not really provide support for one thesis over another. However, they do allow the general conclusions that:

1. incomes and jobs are the major attractions to towns such as this;

Table 7: 1969 sample members' most important reason# for moving to Fort McMurray by gender, age, and education.

	(n)	Income	Transfer	Spouse's job	Career*	Other employment	Adventure	Ecology	Other	NR
Gender:										
Men	(221)	30.3%	9.5%	0.9%	3.6%	35.7%	4.1%	2.3%	9.1%	4.5%
Women	(224)	20.5%	7.8	30.4	2.2	17.0	2.7	1.8	10.5	7.1
Age:										
≤ 29	(217)	28.1	9.2	14.7	1.8	25.3	2.3	1.8	9.9	6.9
30-39	(147)	23.8	7.5	20.4	4.1	28.6	3.4	0.7	6.7	4.8
≥ 40	(79)	20.3	8.9	10.1	3.8	24.0	6.3	5.1	16.4	5.1
Education:										
< 12	(243)	28.0	6.1	16.9	2.0	24.3	3.3	2.5	11.6	5.3
12 yrs.	(74)	27.0	10.8	17.6	1.4	23.0	5.4	1.4	4.0	9.6
> 12	(130)	20.0	11.5	14.6	5.4	30.8	2.3	1.5	10.8	3.1
Total	(450)	25.3	8.4	16.2	2.9	26.0	3.3	2.0	10.1	5.8

Matthiasson's questionnaire item asked: "Why did you move here? (Please list your reasons in order from most important to least important.)" This table displays the distribution of the reasons listed first. Only 48% of the respondents gave a second reason.

* Includes comments about job security, chances for advancement, and opportunities for job training.

2. incomes themselves appear to be more important than career opportunities;
3. the young and the less educated are more likely to be attracted by the prospect of high incomes;
4. desires to move to a "more open" community or to "do something different" influence only a few migrants; and
5. a large proportion of female migrants arrive because of the employment opportunities available to their husbands.

Employment Circumstances Surrounding Migration

The nature of the classic status attainment model is such that most career interruptions and irregularities are overlooked. Hence, any upward or downward moves as a consequence of migration to Fort McMurray would be missed. A more focused analysis of the employment circumstances surrounding migration is necessary. The 1979 survey instrument included the question: "Were you unemployed just before moving to Fort McMurray?" A large proportion (38%) of these migrants answered "yes" (Table 8) demonstrating that a qualitative occupational status change accompanied migration for many of these sample members. The same question used in the 1982 Edmonton Area Study elicited 29% affirmative responses from those who had migrated to Edmonton (Table 8). It would appear that a larger proportion of migrants to Fort McMurray than to Edmonton were unemployed before moving. However, male-female comparisons within these two city samples show that, among male migrants, the proportion previously unemployed is identical (29%). Given the rapid growth of Edmonton's population in the past decade, the finding that this city and Fort McMurray both attracted large proportions of previously unemployed male migrants is not unexpected. Both cities were central to Alberta's petroleum-based boom in the 1970s and early 1980s. On the other hand, an explanation for the female inter-city difference in pre-migration unemployment is not immediately apparent.

Table 8 also displays, for both community samples, the proportion of specific demographic and employment sub-groups who were unemployed prior to migration. Young, single, less educated, and recently arrived migrants were more likely to be unemployed before arriving in these two communities. But once again, we see the highest

Table 8: Percent unemployed before migrating by selected variables by city of current residence: all in-migrants.

	Fort McMurray, 1979		Edmonton, 1982	
	%	n	%	n
Gender:				
Male	29	197	29	177
Female	46	221	28	173
Age:				
< 30 years	45	204	34	117
30 - 45 years	30	171	30	110
≥ 45 years	39	39	23	121
Current marital status:				
Single	46	104	34	137
Married	35	314	25	213
Education:				
< 12 years	46	147	40	91
12 years	40	115	26	68
> 12 years	30	153	24	190
Pre-move occupational status:				
SES < 45.0	40	183	----	----
SES ≥ 45.0	30	163	----	----
Pre-move sectoral status[#]				
Periphery	38	185	32	158
Core	32	155	26	179
Area of previous residence:				
in Alberta	36	172	----	----
elsewhere	40	245	----	----
Length of residence in city:				
< 1 year	46	119	39	23
1 - 2.5 years	35	129	32	44
> 2.5 years	36	162	28	283
TOTAL	38	418	29	350

[#] For Edmonton sample members this represents current sectoral status.

rates of pre-migration unemployment among such members of the Fort McMurray sample – the transient, male labour force attracted to resource extraction communities. In addition, we note that out-of-province migrants to Fort McMurray were somewhat more likely to be unemployed (40%) than were those who came to this single industry community from somewhere else in the province (36%). Finally, previous employment in low status jobs and in periphery sector labour markets are linked with a higher probability of pre-migration unemployment.

It is possible that some of those reporting pre-migration unemployment (in both city samples) were not really "out of work and looking for work" at the time. Some might have left an educational institution, for example, and then taken a job in the new community. Others may not have been looking for paid employment either before or after moving. There is no satisfactory way of determining the extent of such measurement error. The following analyses, limited to *current labour force participants*, may eliminate some of these cases if they exist.

Forty-eight per cent of these Fort McMurray residents (156 out of 326) stated that they had a job arranged in the community before they arrived. This would include those transferred by their employer as well as construction workers hired in union halls in Edmonton and other southern urban centres. It would also include those who were recruited by the community's major employers, particularly Syncrude which has engaged in extensive nation-wide recruiting of employees. In short, a sizeable proportion of the current labour force had moved with employment already assured.

Several comparisons to other community surveys emphasize this fact. Of the current labour force members in the 1981 Winnipeg and Edmonton Area Studies who had moved to these cities, 36% and 33% respectively said they had a job arranged before coming. A recent study of in-migrants to Hamilton reported that 39% of the predominantly male sample members had a job pre-arranged (Schulman and Drass, 1979:338). If only male labour force participants in the Fort McMurray sample are considered, we find that over two-thirds (68%) had a job pre-arranged. Evidence that a majority of these male migrants arrived with employment assured does not mean, of course, that all male migrants to this resource town were so fortunate. A cross-sectional study can include as respondents only those who stayed in the community. There is no way to estimate how many migrants arrived without work and left again. Furthermore, a cross-sectional study done several years earlier at the height of the construction boom might have included a higher proportion of individuals who found work only after arriving in the community.

Those Fort McMurray respondents who had not arrived with a job pre-arranged were asked "Did you find a job right away?" One hundred of these 154 current labour force members (65%) answered "yes". This high proportion suggests that the local labour market was fairly open to migrants seeking work. However, larger proportions of similarly identified sub-samples in the 1981 Winnipeg and Edmonton Area Studies (74% and 75% respectively) also reported finding a job right away. Rapidly growing resource towns *in their operations phase* clearly provide employment opportunities to migrants. Such labour markets are obviously unique in their rapid expansion, and appear to be unusual in the extent to which migrants move into pre-arranged jobs, but they are not unusually open to migrants arriving without employment already assured.

Previous discussions and analyses have shown that women were more likely than men to be unemployed before migrating to Fort McMurray, and also less likely to be employed by the core sector oil companies in this community. We would also expect, on the basis of observation of labour markets in general, that women would have been less likely to migrate with employment guaranteed and more likely to have experienced difficulty finding work after arrival. Figure 4 displays the sequence of circumstances surrounding migration and job changes for both male and female labour force participants in the Fort McMurray sample.

The most typical pattern for men was to have been employed prior to moving (70%), to have had a job pre-arranged (78% of this sub-sample), and to be currently employed by an oil company (59% of this second sub-sample). This particular sequence was reported by 63 of the 196 male labour force members in this sample. Those previously employed but without a job pre-arranged in Fort McMurray had relatively little difficulty finding a job right away (75%), but were not highly likely to be employed by an oil company (36%). On the other hand, men who were *unemployed* immediately before migrating were less likely to have had a job arranged in the new community (47% compared to 78%). If members of this small sub-group had managed to make such

Figure 4: Migration, job search and employment opportunities in Fort McMurray by sex.

<table>
<tr><td rowspan="6">Men currently in the labour force (n = 196)</td><td colspan="8">Unemployed just before coming to Fort McMurray?</td></tr>
<tr><td colspan="4">YES (58; 30%)
Had job arranged?</td><td colspan="4">NO (138; 70%)
Had job arranged?</td></tr>
<tr><td colspan="2">YES (27;47%)
Presently with an oil company?</td><td colspan="2">NO (31: 53%)
Found a job right away?</td><td colspan="2">YES (107; 78%)
Presently with an oil company?</td><td colspan="2">NO (31; 22%)
Found a job right away? (NR = 3)</td></tr>
<tr><td>YES
(19; 70%)</td><td>NO
(8; 30%)</td><td>YES
(26; 84%)</td><td>NO
(5; 16%)</td><td>YES
(63; 59%)</td><td>NO
(44; 41%)</td><td>YES
(21; 75%)</td><td>NO
(7; 25%)</td></tr>
<tr><td colspan="2"></td><td colspan="2">Presently with an oil company?</td><td colspan="2"></td><td colspan="2">Presently with an oil company?</td></tr>
<tr><td colspan="2"></td><td>YES
(13; 42%)</td><td>NO
(18; 58%)</td><td colspan="2"></td><td>YES
(10; 36%)</td><td>NO
(18; 64%)</td></tr>
<tr><td rowspan="6">Women currently in the labour force (n = 127)</td><td colspan="8">Unemployed just before coming to Fort McMurray (NR = 1)</td></tr>
<tr><td colspan="4">YES (64; 51%)
Had job arranged?</td><td colspan="4">NO (62; 49%)
Had job arranged?</td></tr>
<tr><td colspan="2">YES (11; 17%
Presently with an oil company?</td><td colspan="2">NO (53; 83%)
Found a job right away? (NR = 5)</td><td colspan="2">YES (11; 18%)
Presently with an oil company?</td><td colspan="2">NO (51; 82%)
Found a job right away? (NR = 8)</td></tr>
<tr><td>YES
(2; 18%)</td><td>NO
(9; 82%)</td><td>YES
(29; 60%)</td><td>NO
(19; 40%)</td><td>YES
(3; 27%)</td><td>NO
(8; 73%)</td><td>YES
(22; 51%)</td><td>NO
(21; 49%)</td></tr>
<tr><td colspan="2"></td><td colspan="2">Presently with an oil company?</td><td colspan="2"></td><td colspan="2">Presently with an oil company?</td></tr>
<tr><td colspan="2"></td><td>YES
(5; 10%)</td><td>NO
(43; 90%)</td><td colspan="2"></td><td>YES
(6; 14%)</td><td>NO
(37; 86%)</td></tr>
</table>

arrangements before moving, it was likely with an oil company since 70% were employed in this sector at the time of their interview. If previously unemployed male migrants had arrived without a job arranged, they were still likely to find work right away (84%), but less likely to find employment in the local core sector (42%). Thus, finding work in Fort McMurray had not been difficult for a large majority of these male sample members. The probability of finding work in an oil company was greater for those employed before migration and for those who had a job pre-arranged. The latter relationship reflects the recruiting efforts of the oil companies in Alberta and elsewhere. This recruiting favoured previously employed individuals, but some of the pre-migration unemployed were apparently also recruited into an oil company job.

The migration and job search experiences of female sample members were not nearly as positive. One half of the women had been unemployed immediately before moving to Fort McMurray. The employment circumstances surrounding migration for both the previously employed and unemployed were much the same. A very large majority (83% and 82%) had not had a job pre-arranged and, for the few who had, it was very unlikely to have been with an oil company. Among the many who came without employment secured, slightly more than one half (60% and 51%) found work right away, but only a small minority were employed with the oil companies when interviewed (10% and 14%). Thus Figure 4 clearly displays the different employment opportunities available to male and female migrants to this single industry town. Obtaining and maintaining a job was easier for men, who also were more likely to find employment in the local core sector. Considering all of the labour force members in the sample, 54% of the men compared to only 14% of the women were employed by the oil companies at the time of their interview.

In Table 8 we saw that workers with core sector employment experience were less likely to have been unemployed before moving. But the large proportion of men who migrated with a job guaranteed suggests that both pre-migration core and periphery sector workers were able to arrange employment in Fort McMurray in advance. Sixty-four per cent of the men leaving periphery sector employment had a job arranged, compared to 74% of those leaving a core sector job. This difference is not statistically significant ($p > .05$) and allows us to conclude that, for male migrants, previous position in a segmented labour market did not affect the ease of migrating and obtaining work. The same was not true for female migrants. Among women in the labour force when interviewed, 32% of those leaving a core sector job when migrating had a job waiting in Fort McMurray. Only 7% of those previously employed in the periphery had a job pre-arranged. In other words, for women the structure of larger societal labour markets extended into this resource town. For men, this appears somewhat less true.

The Fort McMurray Occupational Structure

The local occupational structure which absorbed these migrants has changed over time as has the community's industrial structure (see Figure 2 in chapter three). Census data on community occupational distributions are compared to a 1978 national distribution in Table 9 below. Some of the largest occupational changes observed in Fort McMurray were the shifts in the relative number of construction jobs in the town as the two oil sands plants were built. Table 9 misses much of these particular changes since they occurred largely between the years for which occupational distribution data are presented (1961, 1971, and 1979).

With the exception of a drop in 1971 which is not easily explained, the proportion of managers and administrators in Fort McMurray has been somewhat above the national average for the last two decades. This may simply reflect the presence of a large number of civil servants in this regional administrative centre. While the 1961 occupational distribution contained a relatively low proportion of technical and professional jobs, by 1971 this component of the local distribution was of about normal size, and by 1979 this group was much larger than the Canadian norm (25.5% compared to 15.1%). With the growth of the relatively high technology oil sands extraction industry, the number of professional, engineering and other technical jobs has increased substantially.[44] In chapter five, we found confirmation for the simple hypothesis that a two-class model might well describe contemporary Fort McMurray. The very substantial proportion of managers, professionals and technicians support the corollary hypothesis that this class is of substantial size. In fact it is larger than normal.

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[44] A similar finding is reported by Murdock and Schriner (1978) who compared occupational distributions over time in five western U.S.A. communities where coal development projects were underway.

Table 9: Occupational distributions: Fort McMurray (1961, 1971, 1979) and Canada (1978).

	Percentages			
	Fort McMurray			Canada
Occupational category	1961*	1971*	1979#	1978@
Managerial/administrative	10.2	4.0	8.5	7.5
Natural sciences/engineering/mathematics	7.1	5.6	17.5	3.4
Social sciences/religion/teaching		7.4	6.0	7.3
Medicine and health		3.7	2.0	4.4
Clerical	7.1	14.9	12.2	17.3
Sales	3.4	7.7	4.1	10.5
Services	18.6	12.1	12.2	12.9
Farming/fishing/hunting/mining	3.4	6.0	8.9	6.4
Processing	31.0	5.3	0.4	3.9
Machining		4.2	0.3	2.7
Fabricating/assembling		6.3	13.8	9.0
Construction		11.4	8.6	6.6
Transportation	15.8	4.7	3.9	4.2
Materials handling	3.4	3.7	1.3	2.5
Other crafts and equipment operating	NA	3.0	0.3	1.4
TOTAL	100.0	100.0	100.0	100.0
(N)	323	2150	9967	9,972,000

[*] Adapted by Nichols and Associates Ltd. (1979:69) from Dominion Bureau of Statistics data. Totals exclude "occupations not elsewhere classified".

[#] From 1979 Fort McMurray Municipal Census (New Town of Fort McMurray, 1979).

[@] From Statistics Canada (1981:271).

Over this 20 year period, clerical jobs increased to the national norm, while service sector jobs dropped to the overall Canadian level. As is the case in many resource towns, sales occupations remain under-represented, reflecting the somewhat limited retail shopping facilities in the community. Although the time periods represented in Table 9 coincide with pre-construction or operations eras and *not* with the peaks of construction booms, the proportion of construction jobs in the local economy is still higher than the national norm. Over the two decade time-span, transportation jobs dropped from about four times the national proportion to slightly less than the national level. Manufacturing in the traditional sense is and has been virtually non-existent in this resource extraction community. The many jobs in the oil sands mines and extraction plants are distributed across the professional/technical, mining, and fabricating/assembling categories.

Table 10 contains survey estimates of the total occupational distribution, as well as separate male and female distributions for all currently employed sample members. This table also includes similar estimates from the 1979 Edmonton Area Study, allowing a comparison of the occupational distribution of a single industry resource town with that of a more diversified and considerably larger urban centre. Before examining gender differences, several inconsistencies between the 1979 Fort McMurray municipal census distribution (Table 9) and the 1979 survey estimates (Table 10) should be noted. The survey appears to under-represent managerial, professional and technical workers and over-represent clerical workers. Part of this may be the result of the over-representation of women in the sample. The survey estimates also appear to over-represent processing and construction occupations while under-representing mining and fabricating occupations. This probably reflects different occupational coding practises: jobs in mining or processing (the oil sands extraction plants) and jobs in construction and fabricating (construction of an oil sands extraction plant) may be difficult to classify consistently.[67]

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[67] For example, comparison of the 1978 and 1979 Fort McMurray municipal census occupational distributions reveals an unusual increase from 0.5% to 7.5% in mining (Nichols and Associates Ltd., 1979:69). This is probably a product of coding errors. Census enumerators would have been doing on-the-spot occupational coding with crude categories. The 1979 survey data were coded by a trained individual using the detailed occupational descriptions provided by Statistics Canada. I have considerably more confidence in the survey data since I supervised its coding and because the survey instrument requested a detailed description of the job in question to facilitate coding. The Fort McMurray and Edmonton survey data on occupations were coded by the same individual, so direct comparisons within Table 10 should not be problematic.

Table 10: Sample estimates of occupational distributions in Fort McMurray (1979) and Edmonton (1979) by gender.

	Percentages					
	Fort McMurray, 1979			Edmonton, 1979		
Occupational category	Women	Men	Total	Women	Men	Total
Managerial/administrative	2.7	5.2	4.3	3.9	13.2	8.9
Natural science/engineering/mathematics	2.7	15.6	10.9	6.2	7.2	6.8
Social sciences/religion/teaching	16.4	3.1	7.9	11.6	11.8	11.7
Medicine and health	3.6	1.0	2.0	14.0	2.6	7.8
Clerical	36.4	3.6	15.5	42.6	5.9	22.8
Sales	6.4	5.2	5.6	9.3	5.9	7.5
Services	20.9	2.6	9.2	7.0	11.2	9.3
Farming/fishing/hunting/mining	0.0	3.1	2.0	0.0	1.4	0.8
Processing	0.0	13.0	8.3	1.6	2.6	2.1
Machining	0.0	3.6	2.3	1.6	5.9	3.2
Fabricating/assembling	1.0	9.8	6.6	0.8	2.0	1.8
Construction	2.7	21.8	14.8	0.0	12.5	6.8
Transportation	3.6	4.1	4.0	0.8	10.5	6.0
Materials handling/other crafts/occupations NEC	3.6	8.3	6.6	1.6	7.2	4.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
(N)	110	193	303	129	152	281

Tables 9 and 10 both consider only full-time employed workers. In 1979, almost 1000 of the residents of Fort McMurray enumerated in the June census were working part-time, and 77% of these part-time jobs were held by women (New Town of Fort McMurray, 1979:13). Along with over-representation in the part-time category, women were also heavily concentrated in traditional "women's jobs" (Table 10). A total of 84% of the 110 full-time employed women in the Fort McMurray sample were working in social science/religion/teaching, medicine/health, clerical, sales, and service occupations, compared to only 16% of the men. Examination of the Edmonton sample estimates reveals a similar proportion of women (85%) but a somewhat higher proportion of men (37%) in these occupational categories.

Considering only male distribution differences between the two cities, we find men in Fort McMurray bunched in the technical (engineers), mining, processing, and construction categories while men in Edmonton are spread across a wider range of occupations. These data demonstrate that, as in other single industry towns, Fort McMurray's male labour force is highly concentrated in jobs related to the dominant industry. The relatively high technology nature of this industry means that more technical and engineering jobs are available (for men) than is the case in most other Canadian urban centres. City differences in female distributions show women in Fort McMurray less likely than women in Edmonton to be found in such higher status technical occupations. Instead, Fort McMurray women are a bit more likely than women in Edmonton to be employed in traditional blue-collar "men's jobs" like construction and transportation.

Women working on construction sites and driving trucks are quite visible, even though they remain a distinct minority. This may account for the fact that only 18% of the total Fort McMurray sample disagreed with the statement "women have a good chance for real job equality here". Women were less likely to agree than were men, but the difference was not statistically significant ($p > .05$). Similarly, length of residence in the community, age and employment with an oil company did not have a significant effect on responses to this statement. The only variable of importance was education: respondents with more education (who were probably more conscious of the absence of women in higher status jobs) were less likely to agree that women encountered equal occupational opportunities in this community. In summary, only in recent years have female labour force participation rates in this community approached the provincial rate (chapter three), women are highly over-represented among the part-time employed, and most of the women with full-time jobs remain in traditional female occupations. In terms of occupational opportunities for women, Fort McMurray appears to be like most other contemporary Canadian resource towns.

Migration and Occupational Status Change

The earlier examination of status attainment among Fort McMurray labour force members focused on status origins, educational attainment, and the linkages between first and present occupational statuses. As I then noted, such an analytic strategy addresses some important issues but provides few answers to questions about the effects of a decision to move to a resource town. An examination of employment circumstances surrounding migration, and a closer look at the occupational structure of the receiving community have provided some insights, as will the following analyses of differential patterns of status change accompanying migration.

Table 11 displays the average occupational status for current labour force members' first and present/last jobs (as in Table 5), as well as the average status of the jobs held immediately before and after migration. The bottom half of this table presents the average status changes experienced by these migrants through their careers and within specific career segments.[41] Over the course of their career, these individuals had moved upwards an average of 4.99 points on the Blishen and McRoberts' (1976) socio-economic status scale, but most of this change (an average of 3.77 points) had occurred prior to migration. Average status change accompanying migration was minimal (0.19 points) and only a small amount of further status improvement had occurred following arrival in Fort McMurray (an average of 1.37 points).

Despite these statistics, a conclusion that migration did not result in occupational status change would be premature. Table 11 reveals that, among these labour force members, women had actually moved *down* (an average of 1.23 status points) with migration while men had moved up (0.93 points). Following arrival in Fort McMurray,

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[41] These change scores are simply the difference between the statuses of the jobs in question. A change score of zero would be obtained if an individual had not changed jobs or had exchanged one job for another of equal status.

Table 11: Occupational status# changes by gender: all in-migrants currently in the labour force.

	Averages (and sample sizes)		
	Women	Men	Total
Occupational status of first job	41.5 (125)	39.2 (189)	40.1 (314)
Occupational status of last job before migrating	45.9 (100)	43.5 (179)	44.3 (279)
Occupational status of first job in Fort McMurray .	43.3 (119)	44.5 (195)	44.0 (314)
Occupational status of present/ last job	44.5 (127)	45.8 (196)	45.3 (323)
Status change prior to migration	2.96 (99)	4.23 (176)	3.77 (275)
Status change accompanying migration	-1.23 (92)	0.93 (178)	0.19 (270)
Status change subsequent to migration	1.22 (119)	1.46 (195)	1.37 (314)
Total status change since last job before migrating	-0.32 (100)	2.26 (179)	1.34 (279)
Total status change since first full-time job@	2.62 (125)	6.56 (189)	4.99 (314)

[#] Occupational status scores from Blishen and McRoberts (1976).

[*] Gender difference is statistically significant ($p < .05$).

[@] Total career status change is not a perfect sum of its component parts since different sample sizes are used in the examination of these career segments.

women had moved upward almost the same distance as men (1.22 and 1.46 points), but this small average gain merely balanced the earlier status loss. Again we find evidence of prominent gender differences in career opportunities in this single industry community. This, together with the smaller amount of upward mobility for women prior to migration, result in the significant difference between men and women in total career status change (Table 11).

Men leaving a core sector job had moved up a total of 6.0 status points in the course of their pre-migration career. Those men leaving a periphery sector job had moved up a total of only 2.1 points prior to coming to Fort McMurray. This difference, which is statistically significant ($p < .05$), would be predicted by labour market segmentation theory since it reflects greater upward mobility opportunities in the core sector. However, a similar significant difference in pre-migration status change was not identified for women. It appears that career ladders in primary labour markets are less accessible to women.

Table 12 focuses directly on status changes consequential on migration, for men and women currently in the labour force, within pre- and post-move core-periphery categories. For both sexes, the average occupational status of oil company employees in Fort McMurray is significantly higher than that of local periphery sector participants. This is as expected, since labour market segmentation theory assumes that the primary labour markets of the core economy contain "better" jobs, and both Canadian and American researchers have demonstrated this fact (Boyd and Humphreys, 1979:37; Beck et al., 1978:711). Also, for both sexes, employment in the core sector prior to migration is associated with significantly higher status at the time of the interview. This suggests a certain amount of status continuity surrounding migration to Fort McMurray. However, these aggregate statistics actually mask considerable upward and downward movement as a consequence of migration.

Looking first at the experiences of male sample members (Table 12; bottom) and comparing those leaving core and periphery sector employment when migrating, we discover an interesting fact. Previous periphery sector workers had increased their occupational status (pre-migration to present) significantly more than had those migrating out of a core sector job (means of 3.81 and 0.66). Although these men leaving periphery

Table 12: Migration-related occupational status# changes by gender by pre-* and post-move sectoral location: all in-migrants currently in the labour force.

		Pre-move sectoral location			Post-move sectoral location		
		Core	Periphery	Total	Oil Company	Other	Total
WOMEN	Status change accompanying migration	-2.75 (43)	0.09 (49)	-1.23 (92)	-0.08 (13)	-1.42 (79)	-1.23 (92)
	Status change subsequent to migration	2.06 (43)	-0.14 (49)	0.89 (92)	1.95 (16)	1.11 (103)	1.22 (119)
	Total status change since last job before migrating@	-0.64 (46)	-0.05 (54)	-0.32 (100)	1.27 (13)	-0.56 (87)	-0.32 (100)
	Current occupational status	53.3 (46)	+ 38.9 (54)	45.5 (100)	51.1 (16)	+ 43.6 (111)	44.5 (127)
MEN	Status change accompanying migration	-0.09 (85)	1.74 (88)	0.84 (173)	3.28 (97)	+ -1.88 (81)	0.93 (178)
	Status change subsequent to migration	0.85 (85)	2.08 (88)	1.47 (173)	1.10 (104)	1.87 (91)	1.46 (195)
	Total status change since last job before migrating@	0.66 (86)	3.81 (88)	2.25 (174)	4.45 (97)	-0.32 (82)	2.26 (179)
	Current occupational status	48.0 (86)	43.5 (88)	45.7 (174)	49.3 (104)	41.9 (92)	45.8 (196)

Occupational status scores from Blishen and McRoberts (1976).

* Pre-move core-periphery status from typology employed by Boyd and Humphreys (1979).

@ Total status change is not a perfect sum of its component parts since different sample sizes were used in the examination of these career segments.

+ Difference is statistically significant ($p < .05$).

sector jobs began and ended this part of their career with lower status jobs, the act of migrating had been more rewarding in terms of status increase than it had been for those giving up a core sector job. The explanation might be that many of these former secondary labour market inhabitants had managed to find employment with the Fort McMurray oil companies. Table 12 reveals that those male labour force members presently working for the oil companies had increased their status (pre-migration to present) an average of 4.45 points compared to an average status loss of −0.32 for those not working for the oil companies when interviewed. This difference is significant and is largely a product of the large status gain immediately accompanying migration (means of 3.28 and −1.88). Both oil company and other male employees had moved up fairly similar amounts subsequent to arrival in Fort McMurray (means of 1.10 and 1.87).

Further one-way analyses of variance (results not shown) demonstrated that education, age, region of origin, and length of residence in Fort McMurray did not have significant effects on the amount of status change accompanying migration.[69] In short, these demographic characteristics as well as pre-migration core-periphery location do not influence male migrants' chances of increasing occupational status when migrating to Fort McMurray. Although pre-move sectoral location had significant effects in the expected direction on pre-move status change, the structure of the larger society's segmented labour market did not appear to extend into Fort McMurray. The employment sector being vacated was not the determinant of status change and neither were the individual characteristics (education, age) central to human capital theory. Instead, the destination sector was the significant factor. If these male migrants managed to obtain work in an oil company, and many did (104 out of 196), their occupational status increased significantly.

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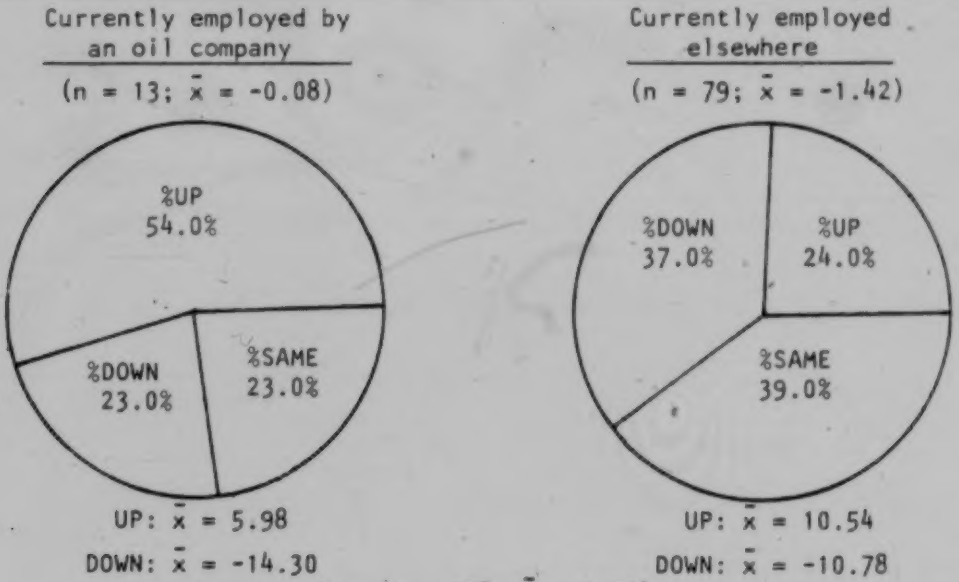
[69] Murdock and Schriner (1978) examined occupational mobility patterns in five expanding resource (coal) communities in the western U.S.A. They report that residents of these communities were more likely to have experienced upward mobility in the five years previous to being interviewed than were residents of pre- and post-development communities. They also report that younger, more educated, and more recently arrived residents were more likely to have been upwardly mobile. These results suggest that individual characteristics may have an effect on occupational mobility in resource towns, but they should be considered cautiously. The status scale used in this American study (professional/manager, white-collar, skilled labour, semi-skilled, unskilled, farmers) is not particularly well-ranked (e.g. white collar would contain clerical workers). Also, the question about mobility in the previous five years did not adjust for the actual length of residence in the resource town. Hence, upward mobility could have occured prior to migration and still be attributed to the move.

The same relative "openness" of the Fort McMurray primary labour market regardless of sector of origin was not experienced by female migrants (Table 12; top). Those leaving a core sector job moved downward an average of 2.75 status points with migration while women who vacated a periphery sector job maintained their status (an average status change of 0.09). Age, education, length of residence in the community and region of origin were again non-significant predictors of migration-related status change, but so too was the employment destination. Only 16 of the 127 women in the labour force when interviewed were employed by the Fort McMurray oil companies. They had experienced a positive average status change of 1.27 points (pre-migration to present) which was not significantly different from the small status loss (an average of −0.56) experienced over this period by women working in Fort McMurray's secondary labour market. The structure of the larger society's segmented labour market clearly extends into this resource town *for women*. The oil companies employ very few women. Among these few, employment in the primary sector has not led to significantly increased occupational status. These facts and other evidence presented earlier suggest that labour market gender stratification is more pronounced than usual in this community.

Finally, the status change averages reported in Tables 11 and 12 still obscure some of the large upward and downward movement experienced by individual migrants. In Figure 5 we can see that, with migration to Fort McMurray, 38% of the men who found oil company employment had moved upward in status. Only 22% of those working in the local secondary labour market had moved upward with arrival in this resource town. In both cases, the average amount of upward movement was very substantial (over 10 points on the Blishen and McRoberts scale). Alternatively, the fewer male oil company employees who moved downward in status when migrating (17% versus 35%) reported only about one-half of the prestige loss experienced by downwardly mobile periphery sector workers (means of −6.57 and −12.04). Figure 5 presents similar across sector comparisons for women, but because of the very few women employed in the oil companies (before and after migration data were available for only 13), only the periphery sector estimates can be considered reliable. We find similar proportions of downward (37%) and upward (24%) movers, and similar average amounts of movement (about 11 points in each direction) as were found for men employed in the Fort McMurray periphery

Figure 5: Migration-related occupational status change* by gender by post-move sectoral location: all labour force members.

Women (n = 92; $\bar{x}$ = -1.23)


Currently employed by an oil company

(n = 13; $\bar{x}$ = -0.08)

UP: $\bar{x}$ = 5.98

DOWN: $\bar{x}$ = -14.30

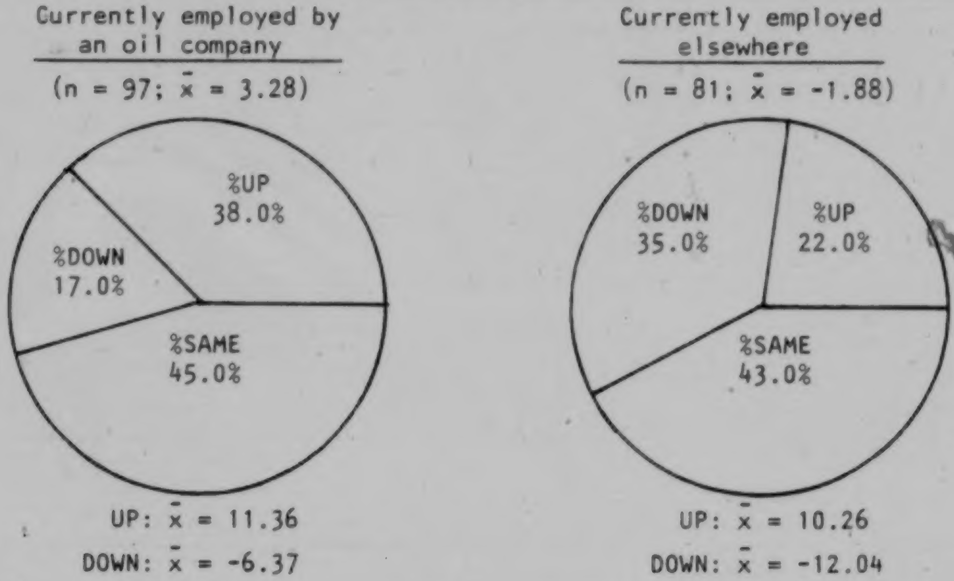
Currently employed elsewhere

(n = 79; $\bar{x}$ = -1.42)

UP: $\bar{x}$ = 10.54

DOWN: $\bar{x}$ = -10.78

Men (n = 178; $\bar{x}$ = 0.93)


Currently employed by an oil company

(n = 97; $\bar{x}$ = 3.28)

UP: $\bar{x}$ = 11.36

DOWN: $\bar{x}$ = -6.37

Currently employed elsewhere

(n = 81; $\bar{x}$ = -1.88)

UP: $\bar{x}$ = 10.26

DOWN: $\bar{x}$ = -12.04

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* Difference between status of last job before and first job after migrating. Occupational status scores from Blishen and McRoberts (1976).

economy. Summarizing the statistics in Figure 5, we can conclude that those workers (almost all male) who were fortunate enough to find work with Syncrude or Suncor in this resource town were more likely to move upward than downward in status.

For both male and female labour force participants, in either the core or periphery Fort McMurray labour markets, the average amount of *post-migration* status change was minimal, but positive (Table 12). These averages again conceal fairly large amounts of upward and downward movement although the actual probability of status movement was lower than when migrating. Figure 6 separates the upwardly and downwardly mobile in Fort McMurray, within these four sub-groups. In all but the female oil company category which contains only 16 cases, over one-half of the group had experienced no status change after migrating. This reflects, of course, the relative absence of job changes in Fort McMurray by these recent migrants. In this sample, only 38% of the men and a similar proportion of the women in the labour force had held more than one job in Fort McMurray. The 1979 municipal census reported that 68% of the employed had held only one job and a further 18% had held only two (New Town of Fort McMurray, 1979:14). Thus, without further longitudinal data, it is impossible to devise an adequate test of the hypothesis that individuals working in the primary labour market have more opportunities to progress up career ladders than do their neighbours who are not employed by an oil company. The job ladders within the Syncrude organization suggest that this might be so, but most residents have not been in the community and with their current employer long enough to have had such opportunities.

Migration and Sectoral Change

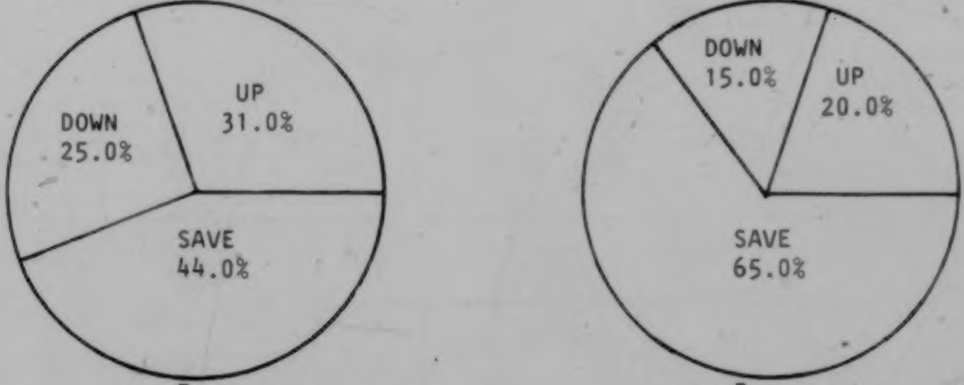
Some of the explanations above suggested that across-sector mobility may have occurred on migration for a substantial number of sample members, primarily men. Such a finding would provide support for a major hypothesis in this study: rapidly expanding resource towns dominated by a core sector industry will, because of labour shortages, allow a high amount of periphery-to-core occupational mobility. Table 13 cross-tabulates pre- and post-move sectoral location for those female and male migrants to Fort McMurray who were in the labour force when interviewed. Both the more restrictive oil company versus other employer classification and Boyd and

Figure 6: Status change subsequent to migration* by gender by post-move sectoral location: all labour force members.

Women (n = 119; $\bar{x}$ = 1.22)

Currently employed by an oil company (n = 16; $\bar{x}$ = 1.95)

Currently employed elsewhere (n = 103; $\bar{x}$ = 1.11)



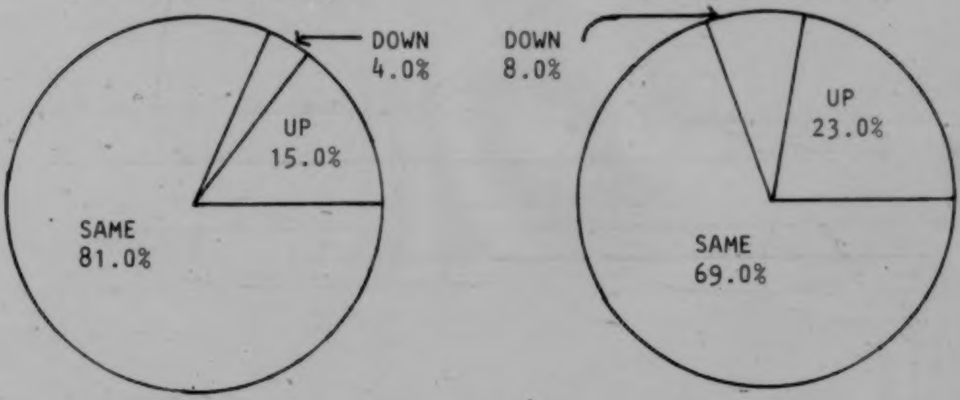
UP: $\bar{x}$ = 11.02
DOWN: $\bar{x}$ = -5.98

UP: $\bar{x}$ = 12.24
DOWN: $\bar{x}$ = -9.54

Men (n = 195; $\bar{x}$ = 1.46)

Currently employed by an oil company (n = 104; $\bar{x}$ = 1.10)

Currently employed elsewhere (n = 91; $\bar{x}$ = 1.87)



UP: $\bar{x}$ = 11.01
DOWN: $\bar{x}$ = -15.46

UP: $\bar{x}$ = 10.76
DOWN: $\bar{x}$ = -7.94

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* Difference between status of current/last job and first job following migration. If no job change occurred, the difference score is 0. Occupational status scores from Blishen and McRoberts (1976).

Table 13: Core-periphery sectoral location before and after migration by gender: all current labour force members.

	Men			Women		
	Post-move*			Post-move*		
Pre-move*	Periphery	Core	Total	Periphery	Core	Total
Core	12	73	85	9	34	43
	14%	86%	100%	21%	79%	100%
Periphery	46	42	88	36	11	47
	52%	48%	100%	77%	23%	100%
Total	58	115	173	45	45	90
	32%	67%	100%	50%	50%	100%
	Phi = .404	Phi^2 = .163		Phi = .566	Phi^2 = .320	

	Post-move#			Post-move#		
Pre-move*	Other	Oil company	Total	Other	Oil company	Total
Core	29	57	86	38	8	46
	34%	66%	100%	83%	17%	100%
Periphery	51	37	88	49	5	54
	58%	42%	100%	91%	9%	100%
Total	80	94	174	87	13	100
	46%	54%	100%	87%	13%	100%
	Phi = .243	Phi^2 = .059		Phi = .121	Phi^2 = .015	

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* Pre- and post-move sectoral location from Boyd and Humphrey's (1979) typology.

# Post-move sectoral location at time of interview.

Humphreys' (1979) sectoral typology are used to identify post-move status.

It is very apparent that core sector workers prior to migration are highly likely to remain in this sector after arrival in Fort McMurray. Eighty-six per cent of the men and 79% of the women who left core sector jobs also obtained new core sector jobs. Looking more closely at the career paths of the core-to-core male migrants, we find that over 50% (38 of 73) left jobs elsewhere in either the mining or petroleum (including refineries) industries. This portrays a reasonable amount of employment stability for those employed in the primary labour markets of the larger economy's core sector. If we restrict the definition of Fort McMurray's core sector to only the oil companies, we still find that a majority (66%) of the male migrants with core sector origins remained in core sector employment.[70] The same does not apply for women for, as we know, very few are employed by Suncor or Syncrude. Using this restrictive but still appropriate definition of Fort McMurray's core sector, we find only 17% of the women with core origins finding employment with the oil companies in this community.

More interesting in Table 13 is the qualified support for the major hypothesis: this expanding resource town has allowed previous inhabitants of secondary labour markets the chance for across-sector upward mobility into a primary labour market. Using Boyd and Humphreys' typology, we find that 48% of the men with periphery origins found employment in the local core. If we define the local core as only the major oil companies, we still find 42% of the male sample members reporting periphery to core movement with migration. In its recruitment and early operations stage, this single industry community has provided unique occupational mobility opportunities to migrants, but these opportunities have been gender-specific. Table 13 also reveals that only 23% of the female sample members who left periphery sector employment were able to cross the sectoral boundary when migrating (compared to 48% of the men with similar origins). A much smaller number (9%) were able to move from an outside Fort McMurray secondary labour market into a job in the oil company primary labour market.

It is clearly apparent that women were much less likely to cross sectoral boundaries when migrating. We could also expect that certain other characteristics (e.g.

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[70] This is a conservative test of the prediction that downward mobility out of core sector employment is unlikely, since the "downwardly mobile" now could include, for example, individuals who were teachers or health professionals both before and after moving.

more education, more training, youth, a history of employment stability) would increase the probability of obtaining work with a Fort McMurray oil company. To test these hypotheses, sub-samples of men and women who had left a periphery sector job when migrating were identified. For men, none of the zero-order correlations between a binary variable for oil company employment and age, education, length of time in the labour force, occupational status of last job before migration, number of full-time jobs, number of times unemployed, and region of origin, were statistically significant. During this phase in its development, this community offered a large number of male migrants the chance to get out of a secondary labour market and, it appears, these opportunities were fairly equitably distributed. Individual characteristics usually associated with improved labour market opportunities did not influence these male migrants' inter-sectoral mobility experiences. On migration to Fort McMurray, they encountered a relatively "open" core sector labour market. Women arriving in Fort McMurray were not as fortunate. Among female migrants leaving periphery sector jobs, those with more education were more likely to find oil company employment (r = .42) but, as noted several times, relatively few women were able to move into this primary labour market. Age, length of time in the labour force, pre-migration occupational status, employment instability indicators, and region of origin did not significantly influence these women's chances of moving out of periphery sector employment into oil company employment when migrating. Quite simply, very few women made such a move (Table 13).

Education, Migration, and Status Change

Education is an important variable in the labour market segmentation model, although its role is not as important as in the status attainment and human capital models. The argument that educational credentials influence the initial sorting of individual workers into primary and secondary labour markets finds some support in these survey data. Pre-move periphery workers reported an average of 11.9 years of education compared to 13.3 years for pre-move core sector inhabitants. Following migration, we find that oil company employees had an average of about one year of education more than other labour force members in the community (13.1 years versus 12.1 years). [71]

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[71] This is not inconsistent with the finding that education did not influence male migrants' chances of moving from periphery into core sector employment. As Table 13

The segmentation model also suggests that the effects of education on status change should be positive and pronounced in the core sector (where job ladders and systematic mobility opportunities are built into organizational structures) and relatively weak in the periphery. Hence, we would expect that, for those migrants who obtained work with the Fort McMurray oil companies, education would have a strong and positive effect on migration-related status change. The effects of education in this regard for migrants moving into periphery sector employment in Fort McMurray should be weaker. The labour market segmentation model would further hypothesize a stronger (positive) association between pre- and post-move migration job status among core sector workers, than among other labour force members. In other words, job changes with migration would be more systematic and predictable. Thus, we would hypothesize greater returns to education, a stronger association between pre- and post-move occupational status, and greater accuracy of prediction (more "variance explained") for core sector (oil company) workers. Periphery sector workers' post-migration status would be more difficult to predict from prior status and education. In a sense, they would face greater uncertainty in the move. To test these hypotheses, the status of the first job following migration was regressed on the status of the last job prior to migration and respondents' education. Table 14 contains four multiple regression equations which allow us to examine these relationships for male and female labour force members in both the Fort McMurray core (oil company) and periphery sectors.

The data provide partial support for these hypotheses but, once again, we also find evidence of differences in the experiences of men and women. The differences between the slopes (unstandardized regression coefficients) for the effects of education on post-move status are most relevant to the hypothesis about greater returns to education in the core sector. For men, the difference is in the hypothesized direction but is non-significant ($p > .05$). For women, the direction of the difference is opposite to that predicted. These comparisons do not encourage confident conclusions. However, we can see that the net effects of education on post-move status are *significantly different from zero* only for men who found work in the oil companies ($b = .741$). The education

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[71](cont'd)demonstrates, a large number of individuals were working in the core sector both before and after migration and, on the average, they were more educated than were periphery sector workers.

Table 14: Education, migration, and status change[*] by gender by post-move sectoral location.

Dependent variable: Occupational status of first job after migrating

	Sub-sample			
	Men		Women	
Independent variable	Oil company	Other	Oil company	Other
Pre-migration occupational status	.710[#] (.063) .739	.559 (.098) .592	.594 (.259) .724	.547 (.107) .583
Education (years)	.741 (.301) .161	.407[@] (.442) .096	-1.439[@] (1.787) -.254	.658[@] (.572) .131
(Intercept)	6.698	11.837	40.814	10.763
Adjusted R^2	.659	.409	.240	.445
N	96	80	13	79

[*] Occupational status scores from Blishen and McRoberts (1976).

[#] In each cell, the first entry is the unstandardized regression coefficient (b), the second is the standard error for this coefficient, and the third is the standardized regression coefficient (Beta).

[@] Coefficient is not statistically significant ($p > .05$).

slopes are non-significant for men who found work in the local secondary labour market (b = .407) and for women employed by the oil companies (b = -1.439) or elsewhere (b = .658). Thus, there is some evidence here that there are greater positive returns to education for men employed by the oil companies than for men employed elsewhere or for women employed in either sector of the local economy.

A similar tentative conclusion can be drawn from comparisons of the slopes for the net effects of pre-migration status (Table 14). The differences between slopes are non-significant, but the strongest effect is found for men employed by the oil companies (b = .710). The combined effects of education and pre-migration status can be seen in the (adjusted) amount of variance explained for each equation. The two explanatory variables (both with statistically significant parrial slopes) account for 66% of the variation in post-migration status for male oil company employees. Only 41% of the variation is "explained" for men in the secondary labour market, while these two independent variables account for 24% and 45% of the variance in post-migration status for female primary and secondary sector workers, respectively. Thus, the career patterns of *male* core sector employees, in terms of occupational status, are most predictable.

Several other independent variables were added to these multiple regression equations (results not shown) to check for additional correlates of post-migration status. Age and years since beginning a first full-time job did not have significant net effects in any of the four equations. A binary variable for premove core sector employment had a small positive effect (F= 3.48; $p < .10$) on the post-move status of women in the local periphery sector, net of the effects of education and pre-move status. This suggests, again, that the segmented structure of the larger economy extends into this resource town, for women. Those women who had core sector jobs prior to migration were significantly more likely to have higher status jobs in Fort McMurray, even though few of them were with the oil companies.

D. Summary and Discussion

In this chapter, survey data were used to look at both the employment histories of migrants to Fort McMurray and the employment opportunities offered by this single industry community. Analyses were presented in a sequence that attempted to follow chronologically the work experiences of such migrants. Thus, discussions of employment histories, total career patterns of status attainment, and reported reasons for migration preceeded examinations of the circumstances surrounding migration and finding work. The focus of the analyses then shifted to status changes and inter-sectoral mobility that accompanied and followed migration.

The Fort McMurray labour force members interviewed in 1979 reported a fairly high average level of employment instability over the course of their careers. More detailed examination of the instability indicators (number of full-time jobs and number of times unemployed) revealed that a minority of the labour force members - mostly young, single males with only a high school education and a few years of labour force experience - were responsible for the high averages. It was suggested that such workers typically remain in the community for only a short time and that they would have represented a larger proportion of the total labour force during the earlier construction era. Thus, as hypothesized, this rapidly growing resource town with its expanding core sector industry has attracted a fairly large number of workers with irregular employment histories. However, this generalization only applies to a minority of the local labour force.

Male and female status attainment models were estimated and comparisons were made, where possible, with models generated from national survey data. Fort McMurray labour force members appeared normal with respect to current occupational status and total amounts of career and inter-generational status change. The process of intra-generational status attainment reflected in the community status attainment model was similar to that observed in national data analyses. The main determinants of current status were education and first job status, and status ascription operated primarily indirectly through these two variables. However, status ascription (the effects of parents' status) seemed less pronounced for male migrants to this resource town than for men in the national sample. This might mean that men with unconventional approaches to careers are attracted to resource towns, or it could be that many male migrants were leaving secondary labour markets where patterns of occupational mobility are less systematic and predictable.

A re-analysis of Matthiasson's 1969 survey data showed that income and employment reasons were clearly the major motives for moving to Fort McMurray, that migrants were much more likely to move for income than for "career" reasons, and that a large proportion of women moved because their spouse had obtained or was looking for work in this resource community. There is some evidence here supporting the hypothesis of more pronounced instrumental orientations among migrants to this resource town. These data also indirectly suggest that the town provided fewer employment opportunities to women than to men. These employment opportunities were examined in more detail with the 1979 survey data.

Almost one third of the male migrants had been unemployed prior to migration, but a surprisingly large number (68%) came to Fort McMurray with a job pre-arranged. Most of those arriving without work guaranteed still managed to find work easily. Those employed before migration and those arriving with a job arranged were more likely to be working for an oil company when interviewed. Pre-migration sectoral location did not affect the ease of obtaining work or influence where these men would find work in Fort McMurray. The same was not true for women. Those women previously employed in a core sector job experienced fewer problems finding work in Fort McMurray. In addition, the circumstances surrounding moving and finding work were considerably more difficult for all women. They were more likely to be unemployed before moving, less likely to have a job pre-arranged, and very unlikely to obtain a job in this community's core oil sector. Thus, these data clearly support the hypothesis that women have benefitted less from the work opportunities generated by the development of the oil sands. Consequently, there is only partial support for the hypothesis that pre-migration sectoral location and work instability influencing employment prospects in Fort McMurray. Men leaving secondary labour markets were not particularly disadvantaged on their arrival in Fort McMurray. The same was not true for female labour force participants.

Limited female access to core sector employment is also reflected in the gender-concentrated Fort McMurray occupational structure. Women are very under-represented in full-time technical, managerial, mining and construction jobs. They are more likely to be working part-time, and in "traditional" female occupations (e.g. teaching, and clerical, sales, and service occupations). Similar gender differences in occupational distributions exist in the larger economy but they appear more pronounced in this single industry town, despite its relatively high technology primary industry. This feature of the dominant industry means that larger than expected numbers of technical and engineering jobs are available in Fort McMurray, but not to women.

The limited nature of the work opportunities available for women in Fort McMurray explain the gender differences in occupational status change accompanying migration. Men had moved up an average of one status point while women had moved down about the same distance with migration. Further analyses revealed that men employed by the core sector oil companies had substantially increased their status with migration while those employed in the local secondary labour market had lost status on arrival in this resource town. While the "destination" sector was determinant of status change in the direction predicted by the segmentation model, the "origin" sector was not. Men leaving periphery sector employment moved up considerably further in status on migration than did men leaving core sector jobs.

A plausible explanation of this finding is that the primary labour market of Fort McMurray's core sector oil companies was open to male migrants leaving periphery sector jobs. Almost one half of the men leaving such employment were able to find core sector work in Fort McMurray. Thus, there is strong support for the central hypothesis that, in times of expansion, core sector firms such as these provide across-sector mobility opportunities normally not available to workers in the peripheral economy. In this particular case, access to such opportunities was contingent on migration. But this is a qualified conclusion since few such opportunities were as readily available to female migrants. Relatively few women found work with the oil companies. Thus, few moved from a secondary to a primary labour market, and few experienced substantial occupational status increases with migration. In this sense, the structure of the larger economy's segmented labour market extended into Fort McMurray for women. Again, this was not the case for men. Contrary to my hypothesis, periphery sector location prior to migration, a history of employment instability, and level of education were *not* associated with migration-related inter-sectoral movement for men.

Because of the short time most of these labour force members had been in the community, the average status change subsequent to migration was low. Hence, we cannot test the hypothesis that the local primary labour market allows more upward mobility than does the local secondary labour market. However, looking at the status change accompanying migration we find qualified support for another segmentation hypothesis. Education had a sizeable positive effect on post-migration status, but only for men working for the oil companies. Again, we see interacting effects of a gender-based stratification system and of a segmented labour market. Men who found work with Suncor and Syncrude benefitted the most.

Length of residence in the community was not significantly associated with pre-migration periphery sector workers' chances of moving into core sector oil company employment. Hence, we do not find support, in terms of occupational status change, for the hypothesis of an unequal distribution of benefits across migration cohorts. However, a cross-sectional study of community residents cannot survey those migrants who left the community without finding satisfactory work or, for that matter, work of any kind. Thus, I cannot completely address this question since unsuccessful members of earlier cohorts may have been more likely to leave the community. Also, I cannot answer a question about the proportion of *all* migrants who were upwardly mobile as a consequence of migration.

The 1979 survey allowed generalizations about the work experiences of residents employed during the early part of the Syncrude operations phase. Although some of the sample members arrived in the community during the preceding construction period, these data still tell us relatively little about the mobility opportunities presented to participants in this building boom. In a previous chapter, I described the huge size of the construction work force needed for this mega-project. Of the total of 34,896 individuals hired between 1975 and 1978, only about 14% were simply labourers (Mitchell, 1981:397-8). The remaining 30,000 skilled tradesmen would have been hired for specific periods of time to work at their trade and, like most craftsworkers (Jenness, 1975:4), would be unlikely to have changed occupations. However, documentary evidence from that era suggests that a substantial number of unskilled workers who obtained training through Keyano College's and Canadian Bechtel's training program were able to find higher status skilled employment (Western Miner, 1978; Nichols and Associates Ltd., 1979:89). Again, reliable estimates of total numbers are not available.

Although large amounts of construction continued in the community after most of the Syncrude plant was completed,[72] the construction industry quickly lost its dominance and its ability to employ many in-migrants. Similarly, after the initial burst of recruiting, the opportunities for employment in the new mine and extraction plant would have decreased. Turnover rates apparently dropped quickly as Syncrude moved into its operations phase and this would also have reduced the chances of obtaining a job in the core industry. Thus, while unskilled workers may have been a necessary nuisance even a few months earlier, even by mid-1978 Syncrude was turning away hundreds of unskilled job-seekers.[73] In short, the openness of the Fort McMurray core sector to migrants leaving the larger economy's peripheral sector was a temporary phenomenon. Opportunities in construction were available for a limited time and were replaced by job openings in the core industry when it began its operations phase. But this resource town and others like it, unless their turnover rates remain high, do not permanently welcome job-seekers.

This caveat recognizes the developmental cycle through which most resource towns pass. Jobs in resource towns are also dependent on world market conditions for whatever staple the community produces. If global demands for nickel decline, lay-offs occur in Sudbury, and if the nuclear energy industry falls into disrepute, residents of Elliot Lake and Uranium City feel the consequences. Since the 1979 Fort McMurray survey, the world demand for oil has fallen dramatically. This market slump has not severely threatened either Syncrude or Suncor but it has left its mark on the local labour market. In 1982, Syncrude announced it was planning a gradual reduction of its work force (via attrition) over the next five years (Edmonton Journal, 1982a). The firm also phased out its "fifth shift" (the training shift built into the work rotation) and so could fill any vacancies elsewhere with redundant workers. Suncor undertook a small expansion in 1982 (Edmonton Journal, 1982b), but the few jobs created were easily offset by the jobs lost as the Alsands consortium decided not to construct a third mine and extraction plant. This immediately created a slump in the local construction industry. The combination of this market collapse with the stage reached in the community's growth cycle meant that, by 1982, few jobs were available in Fort McMurray.[74] In July of 1983, Syncrude announced plans for a moderate size expansion which would create about 400 jobs. How many of these will be filled by individuals transferred from Edmonton, and how many will replace those jobs which the firm earlier (1982) announced it was eliminating, still remains to be seen.

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[72] Permits for over $100 million of construction in 1981 and $30 million in 1982 were issued by the Fort McMurray municipal authorities (Edmonton Journal, 1983a).
[73] Syncrude's company newsletter reported that "of the 2300 applicants received in the downtown [Syncrude] employment office so far in 1978, about 85 percent may not have had the necessary basic qualifications" (Syncrude Canada Ltd., 1978e). About 200 applicants had been hired during this time, about 80 of these for temporary work.

Resource towns are vulnerable because of their dependence on world market demand for their staple product. Many such communities must also face the possibility of a "bust" when depletion of the resource makes its continued production unprofitable. Estimates of the Athabasca Oil Sands' potential range into the billions of barrels of oil but industry officials state that much of this resource is buried too deeply, or is of too low a concentration, to be recovered profitably. The local oil companies do expect to continue operating for some time. But if they were to stop production, many of their employees who had managed to make status gains and across-sector moves when migrating would discover whether their new job skills and occupational status were transferable out of the community. For that matter, any oil company employee currently leaving the community would face this test. The unique process of oil extraction used by Syncrude and Suncor has few parallels in other industrial settings. Consequently, occupational credentials obtained in Fort McMurray may be relatively unimportant in competitions for employment in other labour markets.[75] If so, the status gains offered to migrants may have an additional side-effect: to maintain such status, workers may be required to remain in this community.

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[74] For example, on June 30 the Suncor hiring office in Fort McMurray had openings for six professionals and three tradesmen, while the Syncrude hiring office was not posting any jobs. Officials of Employment and Immigration Canada informed me that, in March of 1982, 1488 residents had been receiving unemployment insurance benefits compared to 650 in March of 1981.

[75] In other parts of the mining industry, mechanization and automation with an accompanying emphasis on training for very specific jobs, are also making workers "less valuable on the job market because of this low skill specialization." (Clement, 1981:297)

VII. Dual Labour Markets in Fort McMurray

A. Introduction

In the previous chapter, the "openness" of the Fort McMurray primary labour market to male migrants was demonstrated. A large proportion of the male sample members who left behind periphery sector employment were able to move into a job with the town's core sector oil companies. This inter-sectoral movement also often involved an increase in occupational status. In this chapter, the local primary and secondary labour markets will be examined in more detail, with particular emphasis on incomes and fringe benefits. Comparisons of incomes and benefits across industrial categories and class groupings are required for tests of segmentation hypotheses. Comparisons to other cities and to national findings are needed to answer the question of whether migrants seeking higher income jobs were successful in their quest. Also, the relative absence of occupational mobility opportunities for women in this resource town necessitates a careful consideration of gender differences in incomes and benefits.

B. The Study of Income Differences

Most north American research on individual differences in incomes has been grounded in the human capital or status attainment models.[76] The human capital explanation which focuses primarily on the effects of education and job experience has generally been put forward by economists, although these variables have also been employed by sociologists. Their status attainment model originally was constructed with status of the current job as the final dependent variable, but researchers quickly extended the model to include income as an outcome of status origins, education, and current occupational status (Matras, 1980:418). As Ornstein (1980:2) notes, the status/income attainment model identified the existence of status and income ascription as well as individual attainment. In other words, social origins had independent effects on workers' incomes, controlling on their success in accumulating human capital (education and job experience). However, both of these models operated with the assumption of a homogenous labour market, and with a clear focus on individual characteristics rather than on group or employer characteristics (Ornstein, 1980:2; Boyd and Humphreys, 1979:7; Beck et al., 1978:705).

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[76] See the useful discussions of these models by Boyd and Humphreys (1979) and Ornstein (1980, 1982).

This individualistic emphasis allowed students of income distribution to ignore much of the evidence of differences between men and women, across employers and industrial sectors, and between social classes. If such differences were acknowledged, they were often "explained away" as simply the result of group differences in individual characteristics such as education, training, job experience, and work motivations (Boyd and Humphreys, 1979:7). For example, gender differences could be "explained" as a function of women's greater tendency to move in and out of the work force, and as a consequence of their less developed career motivations.

Critics of this status attainment/human capital research tradition can be grouped into three general and somewhat overlapping camps: those emphasizing gender differences in income, those focusing on class differences, and the labour market segmentation writers. Students of gender stratification have clearly demonstrated that Canadian women's employment incomes are substantially lower than the incomes received by men. This gender difference has existed and remained relatively stable for several decades (Podoluk, 1968; Ostry, 1968; Armstrong and Armstrong, 1978; Boyd and Humphreys, 1979; Goyder, 1981; Ornstein, 1982). Women in Canada earn approximately 50% to 60% of what men earn (Fox and Fox, 1983:320).[77] More important, researchers have shown that after statistically controlling on education and job experience (the "human capital" variables often used to account for this difference), women still earn less than two-thirds of what men earn (Goyder, 1981:327). Thus gender differences in worker characteristics cannot account for the large gap between women's and men's earnings. Instead, the evidence shows that women are highly over-represented in low-pay peripheral sector labour markets and, within both primary and secondary labour markets, women typically are paid less than are men.

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[77] The size of the difference varies across studies, depending on whether census or survey data are used, whether all income or only wage and salary income is included, and whether all women in the labour force or just those employed full-time are considered. Armstrong and Armstrong (1978:39) use 1971 census data to show a ratio of female to male incomes of .49, and Goyder (1981:336) obtains a similar statistic from the 1973 National Mobility Study survey data. Ornstein (1982:5) reports a ratio of .48 calculated from 1977 national Labour Force Survey data, and a ratio of .57 in the 1977 York University Social Change in Canada survey data (1980:9). Caroll (1980:359) shows ratios, calculated from tax return data, of around .57 in the early 1970s and around .63 in the middle of the decade.

The most prominent of the researchers attempting to reintroduce social class as a predictor of incomes has been Eric Olin Wright (Wright and Perrone, 1977; Wright, 1979). He argues that previous conceptions of social class as a composite of occupational status and education are theoretically inadequate. Instead, the class position of individual workers is determined by examining their relationship to the means of production: ownership and control of these and control of one's own and others' labour are the essential defining criteria. When social classes are defined in this manner, class becomes a significant predictor of incomes, net of the effects of human capital and status attainment variables (Wright and Perrone, 1977:52).

The labour market segmentation model's critique of individualistic income attainment explanations was outlined in chapter four. This model proposes that there is a large difference between the incomes received in the core sector's primary labour market and the periphery sector's secondary labour market. Some of this income gap can be attributed to the higher amounts of education and training brought to the core sector workplace by its workers, but a large amount is simply a function of the different methods of organizing and rewarding work. Workers in primary labour markets have managed to obtain greater job security, better benefit packages, better working conditions, and higher incomes. Employers in this sector have accepted a higher cost of labour in return for a reduction in turnover, retraining, and labour dispute costs. In addition, the segmentation model hypothesizes that income returns to education are higher in primary labour markets. Although many writers in this tradition merely acknowledge further gender-based inequality in incomes within both core and periphery sectors, some have argued that the difference between men's and women's incomes may not be as large in core sector labour markets.

Research evidence supportive of the segmentation model is accumulating. In Canada, Ornstein (1980) has compared the relative effects of class position, sectoral location, and human capital/status attainment variables on income attainment. He finds some support for all models but notes that he can increase the amount of variance explained from around 15% to 50% by adding class and sector variables to his analysis. His data show lower income returns to education in the working class and in periphery sector industries. He concludes that "class and sector condition the impact of the human capital variables and gender" (1980:17). Boyd and Humphreys (1979) note the higher incomes of core sector workers. They report that dollar returns to education and job experience for men do not differ by core sector but, for women, there are higher returns in the core sector (1979:52). Boyd and Humphreys also demonstrate that the male-female income difference varies across industrial sectors. In the public sector (part of the core as they define it) this difference is less than in either the periphery sector or other core sector locations (1979:55), reflecting perhaps the greater monitoring of gender differences in income by both public sector unions and the employer (the state).

Bibb and Form (1977) analyze data from the U.S. and report that by adding segmentation measures to human capital variables the amount of explained variance can be tripled. Beck et al. (1978) find significant differences in earnings between sectors which cannot be accounted for by "differences in labour force quality" (1978:717). They also identify higher income returns to education and to job experience for workers in core sector primary labour markets.

In this chapter, as in Ornstein's (1980) analysis, the relative effects of sectoral location, class position, occupational status and human capital variables on Fort McMurray residents' incomes will be examined. But, as I note below, the analytic strategy differs somewhat because of the resource town research setting:

1. Recognition that many migrants expected that their incomes would improve after obtaining work in Fort McMurray (chapters three and six) immediately raises the question of whether incomes are really higher than usual in this resource town. Various sources supporting such a conclusion were identified in chapter three, but none was relevant to the post-construction era and most did not introduce any control variables.
2. The tendency of Fort McMurray core sector employers (and the various levels of government) to use attractive fringe benefit packages to entice workers to migrate to and remain in the community makes an analysis of benefits necessary, in addition to an analysis of incomes.
3. The single industry nature of this community makes a core-periphery distinction along oil company-other employer lines most appropriate. However, evidence that government employees have also received high incomes and negotiated extensive

fringe benefit packages, and that construction incomes were exceptionally high during the Syncrude building era (chapter three), suggest that a further distinction between the public sector, the construction industry, and other periphery sector employers would be useful.

4. The relatively non-diversified occupational and industrial structures in this resource town allow use of a simple two-category social class measure – managerial/professional and other workers – rather than the multi-class variable used by researchers analyzing national data (e.g. Wright and Perrone, 1977; Wright, 1979; Ornstein, 1980).
5. The distinct gender differences in migration-related status change (chapter six) suggest a careful comparison of income attainment processes for men and for women.
6. A further important variable in the following analyses is length of residence in the community. Members of early cohorts may have been able to capitalize more on income and benefit opportunities offered by local core sector employers. Alternatively, the social impact assessment literature (chapter two) contains many reports of long-term residents benefitting less than recent arrivals in terms of incomes and new job opportunities (e.g. Murdock and Schriner, 1978:439).

A complete examination of work and its rewards in Fort McMurray's dual labour markets would consider more than just incomes and fringe benefits. The labour market segmentation model goes beyond these monetary rewards of work and also hypothesizes greater job security, better working conditions, and less restrictive managerial strategies in core sector primary labour markets. My earlier discussion of Syncrude's innovative "team concept" managerial approach concluded that this method of worker control was typical of those found in large core sector firms (chapter four). But the 1979 survey data are not particularly useful for detailed descriptions of this and other aspects of work in specific Fort McMurray workplaces. Only a limited number of work-related questions could be asked in the multi-topic study and those asked had to be general enough to be applicable to all workplaces. However, these survey data are useful for examinations of within- and between-community differences in the financial rewards of work. This chapter specifically addresses the hypotheses that (a) this resource town offered migrants a chance for income improvements; (b) oil company workers are better rewarded (in monetary terms) for their work; (c) social class, gender, and length of residence also have effects on income and benefit distributions; and (d) segmentation by industrial sector is the most important base of local social stratification.

C. Survey Results

Incomes in Fort McMurray and other Locations

The average 1978 personal income reported by the 359 sample members who provided this information (83.5% of the total sample) was $14,919 (Table 15). The average total household income was $24,709. Table 15 also contains comparison data from an equivalent 1979 survey in Edmonton. The Edmonton averages (estimated from categorical data) were $12,618 and $22,516. Alberta averages for 1978 are not available since Statistics Canada appears to provide provincial data only every second year (1977 and 1979 in this case) and "prairie provinces" averages in the intervening years. Interpolating between the 1977 and 1979 Alberta averages, we obtain a 1978 mean individual income of $12,797 and a 1978 mean household income of $19,574. The national 1978 averages for individual and total household income were considerably lower, $10,673 and $18,547 respectively (Table 15). These comparisons clearly demonstrate that Fort McMurray incomes in 1978 remained well above average, whether comparing to the rest of the country, the rest of the province, or even another Albertan urban centre which was itself experiencing an oil-based economic boom. There is considerable support here for the hypothesis that Fort McMurray is a community that continues to provide high incomes to migrants.

Table 15 also presents the percentage shares of total income received by quintile groups in Fort McMurray, and the upper dollar limits of these quintile groups. Considering first the total household income statistics, it is apparent that the upper limit of each Fort McMurray quintile group is considerably higher than the equivalent national upper limits. Thus, the higher community average household income is not merely a product of a very skewed distribution. The comparisons are somewhat similar for 1978 individual incomes. The upper limit of the lowest community quintile ($1000) is considerably lower than the

Table 15: Total household income and individual income in 1978 in Fort McMurray, Edmonton, and Canada: means and quintile shares.

		Fort McMurray	Edmonton*	Canada#
Total household income (all household units and unattached individuals)	Average ($)	24,709	22,516	18,547
	Percentage share of total income:			
	1st quintile	2.9	----	4.1
	2nd quintile	13.6	----	10.4
	3rd quintile	20.3	----	17.6
	4th quintile	26.1	----	25.2
	5th quintile	37.1	----	42.7
	Upper limits ($) of:			
	1st quintile	10,600	9,682	6,564
	2nd quintile	21,312	15,992	13,072
	3rd quintile	29,360	21,731	19,600
	4th quintile	36,860	29,286	27,741
	5th quintile	82,238	----	----
	(N)	(349)	(350)	
Individual income	Average ($)	14,919	12,618	10,673
	Percentage share of total income:			
	1st quintile	0.4	----	2.6
	2nd quintile	4.9	----	8.1
	3rd quintile	16.1	----	15.8
	4th quintile	30.4	----	26.0
	5th quintile	48.2	----	47.5
	Upper limits ($) of:			
	1st quintile	1,000	4,500	2,931
	2nd quintile	7,700	8,921	6,186
	3rd quintile	17,600	12,333	10,816
	4th quintile	27,240	17,635	17,300
	5th quintile	80,000	----	----
	(N)	(359)	(348)	

* The 1979 Edmonton Area Study used a 20-category income question. Category mid-points were used for calculating these statistics, with the top open-ended category ($35,000 or more) receiving a value of $50,000.

# The national estimates are from survey data published by Statistics Canada (1980b:53, 64, 85, 94).

equivalent national statistic ($2931), but the remaining four community upper limits all exceed the national comparisons. The twenty percent of Fort McMurray respondents with the lowest incomes received only 0.4% of the total sample's income, compared to a national statistic of 2.6%. The second quintile in the Fort McMurray sample also received less than its national counterpart (4.9% compared to 8.1%) with the corresponding increase going primarily to the fourth Fort McMurray quintile (30.4% compared to 26.0% in the national sample).[71]

There may be several explanations for the greater inequality in individual incomes in the Fort McMurray sample. First, a large proportion of these individuals are probably recent migrants who might have been unemployed or working in poorly paid jobs (elsewhere) during part of the year covered by the income question. Hence, although these statistics do inform us about the relative inequality in incomes received by these individuals, they may not present a completely clear picture of the distribution of incomes *within* Fort McMurray. The second explanation centres on the community itself. Fort McMurray contains a smaller than normal proportion of women in the labour force, and these women have typically received lower than average incomes (chapters three and four). This suggests that many of the respondents with the lowest 1978 incomes are women. Some indirect support for such an explanation can be found in the Fort McMurray *total household income* distribution. The "previously unemployed recent arrival" factor is also evident here since the lowest quintile share (2.9%) is still smaller than the comparable national statistic (4.1%). But the relatively more equal household income distribution (compared to the individual income distribution) could be a function of the balancing of high male and low female individual incomes within households.

These conjectural interpretations of community-nation differences suggest further detailed gender comparisons of incomes, and a control on length of residence in the community to counter the "recent arrival" factor. Recognizing these influences in the data presented in Table 15, we might still conclude that there is less variation in the distribution of total household income in this resource town than in the larger society. The lowest and the highest quintiles receive smaller than average shares of total income

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[71] Since the Edmonton Area Study results are based on a recoded 20-category income question, estimates of income shares to quintile groups (particularly for the low quintiles) would be rather unreliable. Even the upper limit estimates which are presented in Table 1 should be interpreted cautiously.

(compared to the national data) while the middle three quintiles receive larger shares. The attenuated class structure of this community may be the explanation for the smaller share of total income received by the top twenty percent of Fort McMurray households. Recent arrivals with low 1978 household incomes may be over-represented in the bottom quintile.

Household Income Differences within Fort McMurray

Questions about differential rewards for work in primary and secondary labour markets, and for men and women, must be answered with data on individual rather than total household income. Similarly, the issue of whether occupation, industry of employment, or social class is the basis of social stratification in this community is best examined with information on incomes received by individuals. On the other hand, both individual and household income distribution data can be used to address the questions: (a) does Fort McMurray offer income improvements to migrants? and (b) which groups have benefitted the most? Table 16 displays the average household income of various sub-groups within the total 1979 Fort McMurray sample, and within the sub-sample of those resident since the beginning of 1978. All of the 1978 income reported by this second smaller group would have been earned in Fort McMurray.

This table contains some expected differences: single respondents have lower household incomes than do married respondents, dual earner families have higher incomes and so do those households with more children. More interesting is the observation that the average 1978 household income of all sample members resident in the community since at least January of 1978 is $27,700, compared to $24,709 for the total sample. This demonstrates that the total sample average is an under-estimate of incomes available in this single industry town. Previously the average provincial total household income for 1978 was estimated to be $19,574. The "corrected" Fort McMurray average is 142% of this provincial average and 149% of the national average (Table 15).

The extent to which incomes increase on arrival in Fort McMurray is reflected in the differences between means for migration cohorts. The average total household income for those resident less than six months (and whose 1978 income would have been completely earned outside of the community) is $15,417 (Table 16). For those who

Table 16: Total 1978 household income by selected variables: total sample and those resident since January of 1978.

	Average Household Income ($)	
Independent variable	Total sample	Resident since January, 1978
Marital status:		
Single	16,893 (89)#	22,193 (43)
Married/common law	27,384 (260)*	29,102 (169)*
Number of children in household:		
None	23,286 (125)	28,046 (63)
One	21,904 (68)	25,172 (40)
Two	26,214 (96)	27,647 (65)
Three or more	28,442 (60)*	29,583 (44)
Number of adults employed:		
One	22,595 (248)	25,979 (137)
Two	29, 900 (101)*	30,844 (75)*
Respondent or spouse employed by an oil company:		
No	22,601 (157)	24,577 (102)
Yes	26,432 (192)*	30,598 (110)*
Respondent's age:		
≤ 24 years	17,926 (81)	25,158 (32)
25 to 29 years	23,544 (88)	25,305 (52)
30 to 34 years	28,692 (77)	30,308 (54)
35 to 44 years	30,855 (73)	31,830 (52)
≥ 45 years	21,766 (28)*	21,572 (20)*
Length of residence in Fort McMurray:		
≤ .5 years	15,417 (47)	------
.5 to .99 years	17,549 (47)	------
1.0 to 1.49 years	28,039 (43)	------
1.5 to 2.49 years	29,163 (72)	29,163 (72)
2.5 to 3.99 years	29,408 (57)	29,408 (57)
4.0 to 6.99 years	25,793 (32)	25,793 (32)
≥ 7.0 years	23,781 (44)*	23,781 (44)
TOTAL	24,709 (349)	27,700 (212)

[#] Sub-sample sizes in parentheses.

[*] Differences between means are statistically significant ($p < .05$).

earned part of their 1978 income in Fort McMurray (resident between six months and one year), the average household income is $17,549. This average then jumps dramatically to $28,039 for the next migration cohort, members of which earned most or all of their 1978 income in this boom town. The mean household income stays around $29,000 for the next two cohorts but then drops down again for longer-term residents. These data provide support for the hypothesis that, on the average, migrants' incomes increase following arrival. They also support the prediction that longer-term residents are less likely to benefit from industrial development.[79]

Age is positively correlated with length of residence in Fort McMurray (r = .348; n = 414) and so the pattern of differences between means for several age groups compared in Table 16 resembles the curvilinear pattern observed for length of residence. The highest household incomes are reported by respondents in the 30 to 44 years of age categories. The young and the old have the lowest incomes as is also the case in other communities. However, only 28 of the Fort McMurray sample members reporting their income were 45 years of age or older (in fact, only three of the 430 sample members were over 65). Thus, we are not really talking about the elderly and the retired when we conclude that long-term residents have benefitted less. Almost all of these individuals (or their spouses) are still in the labour force but they have not managed to obtain as financially rewarding employment as have many somewhat younger, more recent migrants to the community.

Individual Income Differences within Fort McMurray

Total household income for all sample members, whether in the labour force or not, was examined in Table 16. Table 17 contains survey estimates of average *individual* incomes for *labour force members* only. Separate estimates for men and for women are presented. As in Table 16, length of residence in Fort McMurray is controlled to allow an accurate estimate of incomes available in this resource town. We again see the lowest

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[79] A further one-way analysis of variance was undertaken which compared the average total household income of sample members who migrated from within Alberta, from somewhere else in Canada, and from outside of the country. The differences were not statistically significant but still deserve a comment. The two Canadian groups had fairly similar household incomes (around $24,000) but the small group of international migrants (n = 20) reported an average household income in excess of $30,000. This last group may contain highly paid American oil company executives and/or permanent Bechtel employees who move from one major construction project to another.

Table 17: Total 1978 individual income by gender by selected variables: all labour force members and those resident since January of 1978.

Independent variable	Average individual income ($)				
	Total labour force		Resident since January, 1978		
	Men	Women	Men	Women	F-M ratio@
Marital status:					
Single	20606 (51)#	9970 (35)	25964 (23)	15730 (17)	.61
Married/ common law	25913 (125)*	7601 (67)	29177 (77)	8146 (49)*	.28
Age:					
≤ 24 years	16891 (39)	6760 (29)	24129 (14)	10464 (10)	.43
25 - 29 years	22115 (37)	8998 (30)	26222 (21)	10991 (17)	.42
30 - 34 years	27791 (43)	9697 (22)	31472 (27)	10323 (19)	.33
35 - 44 years	30604 (40)	8284 (15)	31009 (27)	8284 (15)	.27
≥ 45 years	23166 (17)*	8810 (5)	24393 (11)	11013 (4)	.45
Length of residence in Fort McMurray:					
<.5 years	15543 (26)	3794 (15)	-----	-----	
.5 - 0.99	14573 (26)	5275 (12)	-----	-----	
1.0 - 1.49	27631 (24)	7942 (9)	-----	-----	
1.5 - 2.49	28745 (34)	11790 (24)	28745 (34)	11790 (24)	.41
2.5 - 3.99	29536 (32)	8863 (15)	29536 (32)	8863 (15)	.30
4.0 - 6.99	30100 (10)	8854 (13)	30100 (10)	8854 (13)	.29
≥7.0 years	24367 (18)*	8930 (13)*	24367 (18)	8930 (13)	.37
Education:					
≤9 years	20366 (22)	6162 (10)	26238 (13)	7846 (7)	.30
10 or 11 yrs	25091 (37)	7575 (17)	29814 (18)	8267 (14)	.28
12 years	24072 (47)	8569 (29)	27131 (31)	10461 (19)	.39
13 to 15 yrs	25725 (37)	7341 (28)	29273 (21)	9073 (15)	.31
≥16 years	25182 (33)	11877 (18)	30015 (17)	14460 (11)	.48
Length of time on present job:					
<.5 years	18892 (57)	5730 (40)	25349 (23)	7552 (17)	.30
.5 - 0.99	19226 (26)	8990 (19)	26950 (7)	8444 (13)	.31
1.0 - 1.99	29359 (39)	10533 (22)	30993 (20)	12134 (17)	.39
2.0 - 3.99	29906 (32)	12682 (11)	29806 (31)	13510 (10)	.45
≥4.0 years	27679 (21)*	11026 (7)*	27681 (18)	12863 (6)	.46

Table 17 continued ....

Table 17 continued.

Independent variable	Average individual income ($)				
	Total labour force		Resident since January, 1978		
	Men	Women	Men	Women	F-M ratio[@]
Occupational status of present/last job:					
≤32	17548 (33)	6487 (29)	24871 (14)	8313 (18)	.33
32.01 - 45	24695 (48)	8743 (15)	27800 (35)	9301 (11)	.33
45.01 - 53	24342 (42)	8920 (30)	28129 (19)	10550 (19)	.38
≥53.01	28360 (53)*	10232 (26)	30880 (32)	13052 (16)	.42
Present sectoral location:					
Oil company	25755 (94)	11299 (15)	28594 (55)	14524 (10)	.51
Construction	27090 (26)	8560 (4)	32326 (17)	10493 (3)	.32
Public sector[¶]	28780 (7)	10643 (31)	31030 (5)	12377 (19)	.40
Other	19658 (49)*	6384 (50)*	24626 (23)	7792 (32)*	.32
Present class position:					
Managerial/ professional	27930 (43)	10523 (25)	30839 (24)	12892 (17)	.42
Other	23225 (133)*	7729 (77)	27679 (76)	9130 (49)	.33
TOTAL	24375 (176)	8392 (102)	28438 (100)	10099 (66)	.36

[@] Female-male income ratio calculated from averages for those resident since January of 1978.

[#] Sub-sample sizes in parentheses.

[*] Differences between means are statistically significant ($p < .05$).

[¶] Public sector includes employees of the federal, provincial, and municipal governments as well as teachers.

1978 incomes for short term residents (less than one year) since much or all of these incomes would have been earned prior to migration to Fort McMurray. When examining the incomes of the sub-sample of residents who received all of their 1978 income in the community, higher averages but similar patterns are observed across the various sub-categories of respondents. Hence, the following discussion will be based on this more restricted sample.

The 100 male sample members resident in Fort McMurray since January of 1978 reported an average income of $28,438, compared to the average of $10,099 for the 66 female labour force members with equivalent residency status. This very large and significant difference ($p < .001$) translates into a female-male income ratio of .36, considerably lower than that found in any of the national income surveys reviewed earlier. In chapter six the few occupational mobility opportunities available to women in this resource town were noted. Here we find evidence of an unusually high level of gender-based income inequality.

Ornstein (1982:8) notes that female-male income ratios are highest among the young and the old. A similar pattern of greater gender equality among younger and older labour force participants is observed in the Fort McMurray sample. The ratio is around .30 for those between 30 and 45 yars of age, but over .40 for the younger and the older sample members (Table 17). This difference is not due to lower female incomes among the middle-aged but rather to lower incomes for young and for older men. Female sample members of different ages have fairly similar incomes.

While the across-age cohort pattern is similar to that found in national data, all of the Fort McMurray female-male income ratios are lower than normal. For example, Table 18 contains a comparison of male and female incomes within age categories for full time employed workers in Fort McMurray and in Edmonton.[10] The female-male income ratio is around .45 for the under 30 and over 44 age categories in Fort McMurray and lower for the middle categories. In the Edmonton sample the ratios for the five age categories are .67, .68, .51, .45, and .57. Even the highest age-specific ratio from the Fort McMurray sample is lower than all five ratios in the Edmonton data. The gender totals in Table 18

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[10] Full time employed sample members rather than all labour force participants (including the unemployed) as in Table 17 are examined since the 1979 Edmonton Area Study did not make this distinction.

Table 18: Individual income by gender by age by community of residence: currently employed sample members.

	Average individual income ($)					
	Fort McMurray			Edmonton[*]		
Age	Female	Male	F-M ratio[@]	Female	Male	F-M ratio[@]
24 years	7657 (25)[#]	17020 (36)	.45	9639 (36)	14050 (25)	.69
25 - 29 years	9724 (26)	22115 (37)	.44	9783 (23)	14966 (29)	.66
30 - 34 years	9606 (21)	27791 (43)	.35	9654 (13)	18809 (17)	.51
35 - 44 years	8284 (15)	30604 (40)	.27	11109 (16)	24898 (27)	.45
45 years	10613 (4)	23323 (16)	.46	11857 (21)	20688 (40)	.57
Gender total	8931 (91)	24554 (172)	.36	10314 (109)	18875 (138)	.55
Community total	19148 (263)			15097 (247)		

[*] The 1979 Edmonton Area Study used a 20-category income question. Category mid-points were used to estimate average incomes, with the top open-ended category ($35,000 or more) receiving a value of $50,000.

[@] Ratio of female to male incomes.

[#] Sub-sample sizes in parentheses.

provide the explanation: women in Fort McMurray earn substantially less than their Edmonton counterparts ($8931 versus $10314) while the situation is reversed for men. Male workers in the resource town have an average annual income of about $6000 more than do male workers in Edmonton. The earlier conclusion that this oil sands community has provided income increases to migrants must be qualified. Fort McMurray offers unusually high incomes to male migrants.

Boyd and Humphreys (1979:ii) report that the female-male income ratio varies by industrial sector, with the public sector having greater gender equality. Returning to Table 17, we observe a similar pattern in Fort McMurray where the ratio is .40 in the public sector and .32 in both construction and the remainder of the local periphery sector. The ratio is highest in the oil companies where women earn 51% of what men earn. But while gender-based inequality is somewhat reduced in the local oil sector, only a very small minority of women are employed by these firms.

Table 17 also reveals that the gender income gap is not as large, in relative terms, in the managerial class, among the more educated and those with higher occupational status, among those with greater job seniority, and among the single. The fact that the female-male income ratio remains below .50 under almost all conditions again confirms the higher level of gender-based income inequality in this community. It also demonstrates that women's low incomes are not merely a function of worker characteristics (e.g. low education, little seniority) since the large male-female income gap remains when controlling on such individual characteristics. The variations in the ratio suggest some kind of a segmentation of the local economy into labour markets with varying levels of inequality. But the criteria which distinguish these labour markets are not immediately apparent since education, job experience, occupational status, class position and sector of employment all appear to condition gender effects on income attainment.

These variables also all have direct effects on income, for both men and women (Table 17). Higher education, more seniority, higher occupational status and higher class position are all associated with greater income although the differences are not statistically significant. There are also large differences by sector of employment, but they are statistically significant ($p < .05$) only for women. The local periphery sector (excluding construction and the public sector) clearly offers the lowest paying jobs with average 1978 individual incomes of $24,626 for men and $7,792 for women. Ignoring the estimates based on very small sub-samples we can conclude that, for men, the construction industry still paid better than did the oil industry in 1978. Large amounts of overtime available to construction workers may be part of the explanation. Oil company employees would have been working regular shifts by this time. For women, the public sector and the oil companies provided the best paying jobs. These results show that incomes do vary systematically by sector of employment, as the labour market segmentation model predicts. But the similar systematic variations in income by education, job experience, occupational status, and class position suggest a multiple regression analysis which can isolate the net effects of these variables.

The total sample multiple regression equation in Table 19 (column three) displays the relative effects on individual income of gender, human capital and status attainment variables (age, length of time on the job, education, occupational status), sectoral identifying measures (binary variables for work in the oil companies, construction, and the public sector), and a binary indicator for class position. Months employed full time in the previous year is included as a necessary control variable since large numbers of sample members were unemployed during part of 1978, usually before migrating (chapter six). Including this variable in the multiple regression equation also allows a clearer picture of the net effect of gender on income attainment. Female labour force members had worked full-time an average of only 8.2 months compared to the average of 11.2 months for men, but women were more likely to have worked part-time. An additional control variable used in this multiple regression analysis is length of residence in the community. While it has a significant zero-order effect on individual income (Table 16), its net effect is minimal because of its inter-correlations with age, length of time on the job, and months employed full time. However, it does have some small suppressor effects on other variables and so is retained in the regression equation. [11]

These eleven variables account for 47% of the variance in individual 1978 income among labour force members in the Fort McMurray sample (Table 19, column three). The single largest net effect is that of gender (Beta = .378). Adjusting for all of the individual

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[11] A binary measure for marital status - married/common law versus other marital statuses - was also tested and then dropped from the regression analysis since it had only very small, non-significant net effects on income.

Table 19: Determinants of individual income: multiple regression equations for male and female labour force members and both sexes combined.

Independent variable	Men	Women	Total
Age (years)	192.3#	-17.7	158.3
	(105.3)	(93.9)	(78.0)
	.131	-.022	.102*
Length of residence in Fort McMurray (years)	124.1	8.2	57.7
	(300.3)	(226.1)	(211.4)
	.031	.004	.014
Length of time on job (years)	70.9	694.0	488.4
	(447.5)	(420.1)	(333.3)
	.013	.183	.078
Months employed full-time in last year	2350.8	623.2	1051.3
	(440.4)	(154.3)	(202.3)
	.389*	.398*	.277*
Education (years)	281.9	89.6	185.7
	(325.2)	(339.2)	(252.5)
	.067	.034	.040
Occupational status	215.7	-2.0	115.7
	(106.1)	(68.0)	(69.8)
	.240*	-.004	.122
Employed by an oil company (yes = 1)	4200.7	3581.8	3365.8
	(2044.2)	(2004.0)	(1570.3)
	.162*	.186	.122*
Employed in construction (yes = 1)	8630.6	1685.3	5959.6
	(2784.1)	(3316.4)	(2190.1)
	.238*	.048	.138*
Employed in the public sector (yes = 1)	11715.2	2478.1	3124.3
	(4894.7)	(1665.0)	(2092.7)
	.169*	.165	.079
Managerial/professional class (yes = 1)	-4882.4	855.5	-1259.1
	(3305.0)	(2236.5)	(2219.3)
	-.164	.053	-.040
Gender (male = 1)	------	------	10580.9
			(1600.9)
			.378*

Table 19 continued ....

Table 19 continued.

	Men	Women	Total
Intercept	-24778.0	491.8	-14169.2
Adjusted R^2	.287	.226	.465
N	168	97	265

# In each cell, the first entry is the unstandardized regression coefficient (b), the second is the standard error, and the third is the standardized regression coefficient (beta).

* Coefficient is significantly larger than zero ($p < .05$).

and workplace characteristics which the other variables represent, women still earn over $10,000 less than do men (b = 10581). The second largest effect is that of the "months worked full time" control variable (Beta = .277). Age (Beta = .102) and the binary measures for construction (Beta = .138) and for oil company employment (Beta = .122) all have significant net effects on income in the expected direction. The other human capital/status attainment variables (education, length of time on the job, occupational status) and the public sector binary variable also have effects in the hypothesized direction, but they are not statistically significant ($p > .05$).

An unusual finding is the *negative* effect of the binary class measure. Controlling on all of the other variables examined, members of the managerial/professional class receive lower incomes than do those in the working class. This finding allows us to reject the hypothesis that, in terms of income, class is a major basis of social stratification in this community. We can also conclude the same thing for occupational status which, in this single industry town, is highly correlated with this class measure.[12] The combined-sex equation in Table 19 is most supportive of a labour market segmentation interpretation of the income stratification structure in Fort McMurray. Age which is often considered a proxy measure for job experience (a human capital variable) has a small significant effect on income, but there are also significant effects for both the oil company and construction sector variables. In this analysis of income differences, we can identify fairly distinct labour markets which account for more of the variation in incomes than do worker characteristics. The one worker characteristic which does have a huge impact on incomes is, of course, gender but this finding of an unusually high level of gender-based income inequality is evidence damaging of a simple human capital explanation.

Table 19 also contains separate regression equations for men and for women which, with the exception of the omitted gender variable, repeat the above analysis. The equation for men accounts for 29% of the variance in income while the same variables explain only 23% of the variance in women's incomes. For the women, only months employed full time has an effect significantly greater than zero (b = 623), although there are also weak positive (but non-significant) effects of oil company employment (b = 3582), length of time on the job (b = 694), and employment in the public sector (b = 2478). Comparison of these unstandardized regression coefficients allows us to determine the conditioning impact which gender has on the effects of these variables on income. The slopes for age, education, months employed full time, occupational status, and construction and public sector employment are all larger in the male equation. But the differences between slopes are only statistically significant ($p < .05$) for three of the ten independent variables.[13] Men received significantly larger income returns to age, occupational status, and employment in the public sector. These results confirm, again, that processes of income attainment commonly assumed to be universally operative are often operating only for men. Male workers with higher occupational status, for example, have higher incomes (b = 216) but the same is not true for women (b = −2). Yet, education, which is a key human capital variable, has non-significant net effects on income for both men and women.

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[12] The zero-order correlation between the class variable and individual income is small but positive ($r = .125$; $n = 265$) so the sign change is somewhat unusual. The occupational status measure and the class measure are very highly correlated ($r = .75$) and so we may be seeing some unreliable regression coefficients due to problems of multicolinearity. A step-wise regression analysis revealed that the sign change for the class variable does occur when the occupational status variable enters the equation. To examine the potential multicolinearity problem, separate equations which omitted only one of these two variables at a time were examined. Both occupational status and class remained very unimportant predictors of income when tested separately, and only very small changes were observed in any of the other regression coefficients.

The multiple regression equations above appear more supportive of the segmentation explanation of income differences than of alternative theoretical models. The segmentation model also hypothesizes that the income attainment effects of education, occupational status and job experience are really only evident in the primary labour markets of the core economy. While male-female comparisons approximate such an hypothesis test, the "correct" comparison would be between oil company employees and other workers. As I have argued earlier, the most prominent sectoral division in this community is that between the oil industry and all other employing firms and agencies. In Table 20, the effects on individual incomes of human capital/status attainment variables (age, education, occupational status, and job experience) and the social class measure are examined for men in oil company employment and men working elsewhere in the community. Women are omitted from this analysis since such a limited number are [illegible]orking in the oil company labour market. Controls for length of time in the community

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[13] Differences between slopes were tested with a one-tailed t-test. The standard error of the difference was estimated with the square root of the sum of the squares of the two slopes' standard errors.

Table 20: Determinants of men's income: multiple regression equations for oil company employees and others.

Independent variable	Oil company	Other
Age (years)	281.4[#] (131.2) .211*	48.4 (175.1) .031
Length of residence in Fort McMurray (years)	158.7 (417.6) .044	87.0 (485.2) .020
Length of time on job (years)	-25.2 (587.8) -.005	967.6 (713.3) .162
Months employed full time in last year	2713.9 (605.2) .419*	2143.7 (695.6) .365*
Education (years)	157.3 (366.5) .045	259.5 (606.6) .051
Occupational status	364.6 (121.6) .485*	31.7 (190.5) .029
Managerial/professional class (yes = 1)	-7982.7 (3424.1) -.354*	-1725.4 (7054.2) -.041
Intercept	-32243.2	-8254.4
Adjusted R^2	.345	.143
N	90	78

[#] In each cell, the first entry is the unstandardized regression coefficient (b), the second is the standard error, and the third is the standardized regression coefficient (beta).

[*] Coefficient is significantly larger than zero ($p < .05$).

and months employed full time in the previous year are also introduced.

This multiple regression equation with seven independent variables can account for 34.5% of the variance in male oil company employees' incomes. This is two and one-half times more variance explained than in the periphery sector equation (14.3%). The greater shared variance in the core sector is largely a product of stronger effects for age (a slope of 281 compared to 48) and occupational status (b = 365 versus 32). Among all the variables in the equations, only the difference between occupational status slopes approaches statistical significance ($p < .10$). But this difference is in line with the segmentation model's prediction of greater income returns to human capital in primary labour markets.

Similar support is not found when examining slopes for job experience. In fact, the difference is in the "wrong" direction for the segmentation hypothesis, but neither slope or the difference between them is statistically significant. Similarly, the income returns to education are not higher in the core sector. Again, the difference is in the "wrong" direction, but the effects are really only minimal in both equations. Education does not have an important impact on income in either of the local labour markets, or for either sex.[14] In chapter six, education was also shown affecting migration-related occupational status change only for men who found work with the oil companies. In short, in this community the human capital model's prediction of greater returns in status and income to education receives only minimal support, even less than would be predicted by segmentation theorists. Part of the explanation may be the limited variance in education among these relatively young migrants to Fort McMurray. Alternatively, there is also limited variation in incomes within the core sector oil firms. The standard deviations around average incomes for male workers resident since January of 1978 are $15590 for construction, $14969 for other periphery sector locations, and only $8399 for oil company employees. Suncor and Syncrude may be somewhat unique core sector firms in this respect. Income differences within the firms are not large and do not appear to be tied to education differences. This too could be considered evidence of the "openness" of the Fort McMurray primary labour market to male migrants leaving either core or periphery employment elsewhere.

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[14] The slopes for the simple regression of income on education are non-significant for male periphery sector workers (b = 743; s.e. = 552), male oil company employees (b = 297; s.e. = 378), women working for these oil companies (b = 210; s.e. = 938), and women working elsewhere in the community (b = 407; s.e. = 273).

In Table 20 we again see the substantial *negative* net effect of managerial/professional class position on men's incomes. It is now apparent that the effect is found primarily in the core sector oil companies (b = −7983 versus −1725). The difference between the slopes is not statistically significant, but still deserves a comment. For oil company employees, the zero-order correlation between the binary class measure and income is .178 but the partial correlation, controlling on months worked and occupational status, is −.232. By the time the other variables in the equation are controlled we observe a standardized regression coefficient of −.354. These sign changes suggest that high oil company incomes for industrial workers have eroded much of the expected wage difference between blue-collar workers and a separate class of managers, professionals and technicians. The highest level employees in the Syncrude corporate hierarchy may be paid considerably more but, in 1979, many of them were still living and working in Edmonton.

The Distribution of Fringe Benefits

The labour market segmentation model predicts better incomes, working conditions, job security, career opportunities, and benefit packages in the core sector. However, almost all tests of the model have been restricted to an examination of incomes, usually because of the non-availability of appropriate data on these other work characteristics. This study goes further with its more detailed assessment of the monetary rewards of work (incomes and fringe benefits) in dual labour markets.

Documentary evidence of sectoral differences in the distribution of benefits within Fort McMurray was reviewed in chapter three. Probably most well known are the housing subsidies provided to oil company and government employees. Realty companies associated with Suncor (Athabasca Realty) and Syncrude (Northward Developments Ltd.) have entered into lease-purchase agreements with many of these firm's employees, allowing them to purchase homes more easily. The oil companies have also subsidized rent and mortgage payments for some of their employees. The Alberta Housing Corporation has done the same for employees of the provincial government. Northern cost-of-living and isolation allowances have also substantially increased the incomes of public sector workers (Nichols and Associates Ltd., 1979:127). But beyond this evidence of a sectoral effect on the distribution of benefits, little other information is available.

The 1979 survey data provide a more precise estimate of the sectoral differences in housing subsidies in Fort McMurray. Forty-nine percent of the total sample (n = 393 -- who answered these questions) reported some form of housing subsidy. Home ownership had been directly subsidized for 10%, 16% reported lease-purchase arrangements with their own or their spouse's employer, and 23% were receiving rental subsidies. When the sampled households are separated into those containing an oil company employee (either the respondent or spouse) and those with no employment links to the local core sector firms, we find 73.6% of the oil company households receiving subsidies compared to only 27.5% of the remaining households. The largest proportion of these oil company subsidies (68%) are in the form of direct aid in purchasing or lease-purchase arrangements. The oil companies appear to prefer to subsidize home ownership rather than home rentals. Unfortunately, the actual dollar value of these housing subsidies cannot be determined.[15] If this could be done, we would observe a larger earnings difference between the core oil sector and the local periphery sector (excluding construction and the public sector) than was demonstrated in the earlier analyses of incomes.

All of the currently employed sample members in the 1979 survey were asked to respond to a check-list of fringe benefits. The distribution of benefits received, for all of the currently employed and for men and women employed within specific industrial sectors, appears in Table 21. The distinction between oil company, public sector, construction, and other periphery workers is introduced since income differences across these sectoral boundaries were identified earlier. Male and female workers' benefit packages are examined separately to determine if the distribution of benefits parallels local income inequalities. Because of the very small number of cases in several categories (e.g. male public sector workers and female oil company employees), comparisons should be made cautiously.

Considering first the distribution for all of the employed sample members (Table 21; column one), we can see that certain types of benefits are much more widely available

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[15] The questionnaire included questions about rental payments, mortgage costs, and taxes, but not about the actual value of housing subsidies.

Table 21: Percent receiving fringe benefits by sector by gender: currently employed sample members.

		Male				Female			
	TOTAL	Oil company	Public sector*	Construction	Other	Oil company	Public sector*	Construction	Other
Pension plan	65	84	90	61	49	75	80	25	29
Life insurance	62	89	90	54	57	75	67	0	10
Supplementary medical	55	83	80	39	47	69	62	25	8
Dental plan	55	89	60	50	49	69	36	25	12
Training program	55	84	50	36	43	63	41	0	33
Transportation	52	93	30	57	30	94	8	75	12
Meals	40	69	50	39	28	31	10	50	20
Utilities subsidy	39	89	20	11	9	69	8	0	6
Cost of living/ northern allowance	33	34	60	32	30	31	64	25	8
Free/discounted merchandise	32	38	0	11	43	19	3	0	45
Recreation facilities	27	40	50	11	19	44	26	0	12
Stock options/ profit sharing	27	49	0	21	26	25	3	25	12
(N)	(303)	(102)	(10)	(28)	(53)	(16)	(39)	(4)	(51)

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* Public sector includes employees of the federal, provincial, and municipal governments as well as teachers.

than are others in this community. Over one half (between 52% and 65%) of these workers reported life insurance, pension, medical, and dental plans, and having a training program and transportation to work provided for them. Less than one half (27% to 40%) reported receiving the other six fringe benefits included in the checklist. Equally apparent in Table 21 is the fact that for almost all benefits and within all industrial sectors, women are less likely than men to receive a particular fringe benefit. In the few cases where similar percentages are found for men and for women (e.g. transportation to work and recreation facilities for oil company employees), it is for benefits which would be difficult to dispense in anything but a universal manner. These data demonstrate that the very large male-female income gap in this single industry community is accented by the similarly unequal distribution of fringe benefits.

Across-sector comparisons in Table 21 lead to several fairly clear conclusions. While previous analyses showed construction workers to be highly paid (Tables 17 and 19), it is apparent that construction workers, like other periphery sector workers, receive relatively few fringe benefits. We can conclude that oil company and public sector employees generally have better benefit packages than do workers in the rest of the local labour market. In addition, oil company employees can be clearly distinguished from pubic sector workers on at least six of the items in the checklist (excluding transportation to work which is primarily relevant to oil company and construction workers employed at the mine site outside of town). On only one item (cost of living/northern allowance) are public sector workers clearly favoured over oil company employees. Public sector workers, with occupational peers elsewhere in the province, can argue that working in "the north" requires compensation. Workers in the oil sands industry have no southern counterparts to use as bargaining examples.

These sectoral differences, along with the evidence of housing subsidies received by a large majority of Suncor's and Syncrude's employees, balance the somewhat higher incomes reported by construction and public sector workers. The additional evidence of substantially more upward mobility experienced by (male) oil company employees (chapter six) allows the conclusion that, as predicted, employment in the local oil companies is the most important labour market segmenting factor in this resource town. But this conclusion must be qualified with a reminder of the equally prominent gender-based inequality cross-cutting the sectoral division of the local labour market.

It remains possible, however, that the differential distribution of worker characteristics across industrial sectors, rather than the segmented industrial structure itself, is most relevant for explaining differences in benefit packages. For example, oil company and public sector workers may be more educated and in higher status occupations, and may have held their jobs for a longer time. If so, human capital theory would predict greater work rewards, including more fringe benefits. To examine the effects of these and other independent variables on the distribution of benefits, a simple fringe benefit index - the total number of benefits received - was constructed.[16] Average scores on this index, estimated separately for men and for women within categories of the several independent variables, are displayed in Table 22.

The already-noted sectoral effect on the distribution of benefits is very evident in this analysis. While men receive an average of 6.55 benefits, men employed by Syncrude or Suncor report an average of 8.43 compared to an average of 5.80 in the public sector and just over four in the rest of the local labour market. The overall average for women is considerably lower (3.38) but the same across-sector pattern appears. The few women working in the core oil sector receive a higher average number of benefits (6.63) than do men working in all but the oil sector. Further analyses revealed very few differences *within the oil sector*, confirming the impressions of local residents that non-unionized Syncrude closely matches the benefits provided to the unionized Suncor labour force.

These sectoral differences could be due to a higher proportion of managers, professionals, and technicians in the core oil sector. More benefits are reported by both male and female members of this class (Table 22) although the difference is statistically significant only for women. In addition, more educated female workers, both men and women with higher occupational status, and male employees with greater seniority all receive significantly more benefits. A multiple regression analysis of the distribution of benefits, done separately for men and women, would again be informative.

However, several additional zero-order associations in Table 22 deserve a comment. While length of time on the job has a significant positive effect on the number

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[16] The maximum scale score of 12 was assigned to individuals who received all of the benefits listed in Table 7. The few employees who did not respond to a particular item on the checklist were assumed to be non-beneficiaries of that benefit.

Table 22: Fringe benefits by gender by selected variables: currently employed sample members.

	Average number of benefits received#	
Independent variable	Men	Women
Marital status:		
Single	5.44 (52)	4.24 (38)
Married	6.96 (141)*	2.95 (74)*
Age:		
≤ 24 years	5.77 (39)	2.94 (36)
25 - 29 years	6.37 (41)	4.07 (29)
30 - 34 years	7.00 (45)	3.64 (25)
35 - 44 years	7.30 (44)	3.00 (17)
≥ 45 years	5.73 (22)	2.50 (4)
Length of residence in Fort McMurray:		
≤ .5 years	5.23 (31)	4.79 (14)
.5 - .99 years	5.77 (26)	3.43 (14)
1.0 - 1.49 years	7.25 (24)	2.91 (11)
1.5 - 2.49 years	7.71 (35)	4.08 (24)
2.5 - 3.99 years	6.67 (33)	2.63 (16)
4.0 - 6.99 years	7.50 (16)	2.25 (16)
≥ 7 years	5.55 (22)*	2.36 (14)
Education:		
≤ 9 years	5.52 (27)	1.89 (9)
10 or 11 years	6.33 (39)	2.90 (21)
12 years	6.80 (49)	3.03 (33)
13 to 15 years	7.28 (39)	3.32 (31)
≥ 16 years	6.35 (37)	5.44 (18)*
Length of time on present job:		
≤ .5 years	5.17 (60)	3.26 (39)
.5 - .99 years	6.68 (28)	3.57 (23)
1.0 - 1.99 years	7.42 (43)	3.80 (25)
2.0 - 3.99 years	7.63 (35)	3.31 (13)
≥ 4.0 years	6.85 (26)*	3.22 (9)
Occupational status of present/last job:		
≤ 32	5.19 (37)	2.22 (27)
32.01 - 45	6.17 (52)	3.84 (19)
45.01 - 53	7.21 (47)	3.29 (34)
≥ 53.01	7.25 (57)*	4.47 (30)*

Table 22 continued ......

Table 22: continued.

Independent variable	Average number of benefits received	
	Men	Women
Present sectoral location:		
Oil company	8.43 (102)	6.63 (16)
Construction	4.21 (28)	2.50 (4)
Public sector¶	5.80 (10)	4.05 (39)
Other	4.32 (53)*	2.06 (51)*
Present class position:		
Managerial/professional	7.08 (48)	4.50 (28)
Other	6.38 (145)	3.01 (84)*
TOTAL	6.55 (193)	3.38 (112)

[#] The maximum scale score of 12 would be received by individuals reporting receiving all of the benefits listed in Table 7. Sub-sample sizes in parentheses.

[*] Differences between means are statistically significant ($p < .05$).

[¶] Public sector includes employees of the federal, provincial, and municipal governments as well as teachers.

of benefits received by men, there is no systematic association between seniority and benefits received by women. The explanation may be that more men are employed in the oil company primary labour market where seniority can be turned into material rewards. Most women in this community are employed in the peripheral economy where, as segmentation theorists argue, income and status attainment are seldom possible.[17] Table 22 also reveals that single men receive significantly fewer benefits than do married men while the pattern is reversed for women. We might conclude that in this resource town single men are over-represented in the periphery economy. Alternatively, married women may be less likely than single women to be employed in the local primary labour market or in the public sector. Finally, the statistical significance of the effect of age on benefits received by men (Table 22) is due to the curvilinear pattern of the association. Middle-aged men receive the most benefits. Again, very young and older men may be less likely to be employed by the two large oil companies.

All of these tentative explanations hinge on the existence of a strong and paramount sectoral effect. If they are correct, inclusion of sector of employment among the independent variables in a multiple regression analysis should reduce or eliminate these other variables' effects. Separate multiple regression equations, estimated for currently employed men and women as well as for the two combined, are presented in Table 23. In the total equation which accounts for 51.4% of the variation in fringe benefits received, gender has a statistically significant effect (beta = .220). Controlling on other variables in the equation, men still receive an average of 1.54 more benefits than do women.

The strongest effect exhibited by any of the ten independent variables is that of oil company employment (beta = .600).[18] Net of the other variables' effects, oil company employees receive an average of 4.13 more benefits than do other currently employed Fort McMurray residents. An additional significant effect is obtained for the binary measure representing employment in the public sector (beta = .197). Months employed full-time also has a significant impact on fringe benefits received (beta = .171). Since length of residence in the community and length of time on the job are both controlled,

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[17] A similar conclusion can be drawn from the fact that, for men, the zero-order correlation between individual 1978 income and the number of benefits received is .28. For women, the association is weaker (r = .14).

[18] Binary variables for marital status and employment in the construction industry were tested and then omitted from the analysis since they did not influence the results in any appreciable way.

Table 23: Fringe benefits: multiple regression equations for male and female employed sample members and both sexes combined.

Independent variable	Men	Women	Total
Age (years)	-.046#	-.035	-.038
	(.022)	(.035)	(.018)
	-.131*	-.103	-.100*
Length of residence in Fort McMurray (years)	-.014	-.066	-.031
	(.063)	(.081)	(.049)
	-.015	-.080	-.030
Length of time on job (years)	.055	.004	.074
	(.090)	(.143)	(.075)
	.040	.003	.048
Months employed full time in last year	.379	.113	.162
	(.092)	(.052)	(.046)
	.251*	.186*	.171*
Education (years)	.041	.076	.055
	(.067)	(.125)	(.058)
	.039	.070	.047
Occupational status	.038	-.004	.020
	(.022)	(.024)	(.016)
	.169	-.019	.085
Employment by an oil company (yes = 1)	4.061	4.353	4.134
	(.384)	(.702)	(.335)
	.632*	.570*	.600*
Employment in the public sector (yes = 1)	2.214	1.790	1.821
	(.853)	(.572)	(.449)
	.150*	.309*	.197*
Managerial/professional class (yes = 1)	-1.635	.293	-.721
	(.680)	(.754)	(.504)
	-.223*	.047	-.094
Gender (male = 1)	------	------	1.542
			(.361)
			.220*
Intercept	-.442	1.670	.566
Adjusted R^2	.453	.344	.514
N	182	104	286

[#] In each cell, the first entry is the unstandardized regression coefficient (b), the second is the standard error, and the third is the standardized regression coefficient (beta).

[*] Coefficient is significantly larger than zero ($p < .05$).

this may simply reflect the effects of part-time employment for some and, for others, work in sectors where temporary layoffs are common. Finally, age has a small negative effect on fringe benefits (beta = −.100), controlling on the other independent variables. Older workers tend to receive fewer benefits.[19] But education, occupational status, and job seniority do not have significant net effects in the both-sex equation. There is clear evidence here that industrial segmentation is a better predictor of differences in fringe benefit packages than are the variety of worker characteristics examined.

The separate results for male and female workers lead to a similar conclusion. Variables representing sectoral effects – oil company employment and public sector employment (and perhaps months worked full time) – are the major predictors in both equations (Table 23; columns one and two). The effect of age is significant for men and not for women, but the difference between slopes is not significant. There is a significant difference between slopes ($p < .05$) for months employed full time: men receive greater returns in benefits to months worked. In addition, the male and female slopes for the effects of class position are significantly different. Women in the professional/managerial class receive more benefits than do women in the working class while the opposite is true for men. But the female coefficient is not significantly larger than zero and the male coefficient, while significant, is in the "wrong" direction, so there is no support here for a prediction of substantial class effects on benefits.

Thus, there are differences in the manner in which structural factors and individual characteristics influence the distribution of fringe benefits for men and for women. But we must still conclude that sectoral location is the major determinant of fringe benefit differences in this single industry community. When further analyses were undertaken to find the best predictors of the benefits index for male oil company employees and male workers elsewhere in the community, relatively little variance could be explained (17% and 13.5% respectively). Only a few variables had significant net effects. While education had a positive effect ($p < .10$) on the index among oil company workers, occupational status had a significant positive effect ($p < .05$) in the local periphery sector. Hence, we cannot conclude that human capital variables are more likely to influence the distribution of benefits within core sector firms. The major conclusion remains: oil company workers receive almost twice as many benefits as do other participants in the local labour market.

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[19] Quadratic terms for age and for length of residence in the community were added to the multiple regression equations. Neither the original length of residence variable or its transformation had a significant net effect on the number of benefits reported. The quadratic term for age had a significant net effect on benefits received, but then the original variable became an unimportant predictor (with a positive sign). The orginal age variable is presented in Table 9 because of its clearer interpretability.

D. Summary and Discussion

These analyses can be summarized with reference to the several general hypotheses listed at the beginning of the chapter. First, did this resource town offer migrants a chance for income improvement? It is clearly evident that Fort McMurray has provided high incomes to migrants. Sample members' average individual and household incomes were well above provincial and national averages. It is also clear that these individuals' incomes rose after arrival in this resource town. The incomes of those who were reporting earnings obtained inside Fort McMurray were substantially higher than the incomes reported by recent arrivals. Labour force members who had earned all of their 1978 incomes in this resource town reported an average income that was 142% of the provincial average and 149% of the national average.

Another general hypothesis guiding these analyses was that gender would have an independent effect on incomes and benefits. In fact, the most prominent form of income inequality revealed by these analyses was that based on gender. The male-female income gap was considerably larger than that reported in other national surveys. The gap remained after controlling on education, job experience and sector of employment, although there were identifiable variations in this income disparity. In addition, examination of the distribution of fringe benefits revealed that within all industrial sectors, women were receiving fewer benefits. Previous studies have suggested that women benefit less from resource development projects in single-industry towns. This study documents the extent of such gender-based inequality.

Previous research has also led to hypotheses that older and long-term residents of this rapidly expanding resource town would have benefitted less from the development boom. Some support was found for this hypothesis although it is noteworthy that age alone does not appear to be the causal factor. Few of the long-term residents with low incomes and few benefits were even approaching retirement. Hence, part of the explanation must lie in the differential distribution of these "older" workers across industrial sectors.

Comparisons of incomes and benefits across industrial sectors revealed a fairly systematic pattern. For men, the construction industry and the public sector (which employed very few men) contained the best-paying jobs, but the oil companies were not far behind. All three of these sectors were clearly distinguishable in average incomes from the remainder of the local economy. For women, oil company employment was most financially rewarding (but very few women were employed in this sector), followed by the public sector. Again, jobs in the local periphery provided much lower incomes. If fringe benefit packages are examined along with incomes, the oil companies stand out as the most generous local employers. Almost three-quarters of the households containing an oil company employee were receiving some form of housing subsidy, compared to about one-quarter of the rest of the population. An analysis of the distribution of other benefits revealed the highest number received among oil company employees followed by public sector workers. In this respect, construction workers were like other periphery sector workers. As hypothesized, employees of Syncrude and Suncor, who are mostly men, receive the greatest monetary rewards for work in this single industry town.

Predictions of higher income and benefit returns to higher social class position were not supported in these analyses. The binary social class measure had small, positive, non-significant effects on incomes and benefits for women. It also had small positive, zero-order effects for men, but larger negative net effects, particularly on male oil company employees' incomes. It appears that the high incomes paid to industrial "blue-collar" workers by Syncrude and Suncor (and also to male construction workers) have led to a reduction of traditional differences between working class and managerial/technician class incomes in this town. These differences may, however, be maintained via housing subsidies and other fringe benefits, the dollar value of which could not be determined in these analyses.

The last hypothesis examined in this chapter was that segmentation by industrial sector is the most important base of social stratification in this resource town. Recognizing the equally prominent gender-based stratification system which cuts across other community cleavages, these analyses and the examinations of occupational mobility (chapter six) are supportive of this hypothesis. Specifically, an emphasis on the segmentation of the local labour market into oil company jobs versus all others appears to be most useful in explaining differences in monetary and status rewards for work.

Human capital/status attainment variables have some additional effects on incomes and benefits received but they are weak at best, and usually only apparent for core oil company employees and for men. The finding of greater dollar returns to age, seniority, and occupational status in primary labour markets is, of course, compatible with labour market segmentation predictions. The finding of minimal returns to education, regardless of gender or sector of employment, suggests that the oil companies may be somewhat unusual core sector firms. There is less variation in incomes within these companies than in the rest of the local labour market. These firms do not appear to place a strong emphasis on the educational credentials necessary for high incomes.

These 1979 survey data provide clear answers to some questions, but cannot address others. As noted several times earlier, the labour market segmentation model focuses on more than just the inter-sectoral differences in incomes and occupational mobility opportunities described in this and the previous chapter. The model also predicts substantial differences in working conditions and management strategies. These topics are less easily examined with these survey data. However, some of the unique features of Syncrude's management system were described in chapter four. In addition, employed sample members' own descriptions of some aspects of their work are considered in the following chapter which focuses on the subjective outcomes of work in the segmented Fort McMurray labour market.

A cross-sectional survey such as this also cannot tell us what proportion of migrants to this community actually obtained income improvements. A similar caveat concluded the previous chapter on occupational mobility opportunities. Over the last two decades thousands of individuals migrated to Fort McMurray. Some were fortunate and obtained better jobs than those left behind elsewhere, but others were not. Obviously, some proportion of those unsuccessful in their job search would have left the community, but a cross-sectional study of community residents is incapable of determining the relative number of successful and unsuccessful migrants.

Instead, this 1979 survey profiles the community at a single time point, early in Syncrude's operations phase. In a relatively static community, one could confidently generalize forwards and back in time. But Fort McMurray was growing and changing quickly in the 1970s, and continues to change as it moves through the developmental sequence typical of resource towns. Hence, a survey of the community after construction of the Syncrude plant was largely completed cannot provide estimates of sectoral differences in incomes at the peak of the construction boom, or in the community's maturity. Other sources suggest that the construction industry may have been the trend-setter during the construction era (Nichols and Associates Ltd., 1979:126). High hourly rates and guaranteed overtime for construction workers meant that other employers, competing for labour, had to try and match these incomes. The construction industry was strong enough during the Syncrude building boom to create turnover problems for the oil companies (Hannant, 1975:13).[90] Thus, we might conclude that the boundary between core and periphery sectors (and their primary and secondary labour markets) changes as a resource town booms and then matures. Over time, the resource extraction industry becomes dominant and construction takes a secondary position. In the case of Fort McMurray, this suggests that by today we might find male oil company workers earning more than male construction workers. Such a trend would obviously be reversed if a third oil sands plant was built in the region.

Other local changes in the stratification system might also be expected. The relative absence of income differences in the oil companies, particularly differences associated with class position, may be a consequence of Syncrude's youth. In 1979, the company had only been operating for a short time but seniority differences and class differences in income and benefits may take a longer time to appear. Lower status blue-collar workers' career opportunities within the firm may not be as extensive as those available to better educated managers and technicians. Also, in 1979 many of Syncrude's senior executives and researchers were still working in Edmonton. Since then they have been relocated in Fort McMurray and this may have increased the variation in incomes and benefits within the firm.

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[90] The catering industry which supported the construction industry during this time would still have to be considered part of the local peripheral economy. Incomes in this industry were low, turnover was high, and women formed a large part of the workforce. (Parkinson et al., 1980).

VIII. Work Attitudes, Job Satisfaction, and Class Consciousness

A. Introduction

Previous chapters in this study have described the evolution in Fort McMurray of a segmented industrial structure with clearly defined dual labour markets. Analyses of individual-level survey data then focused on migrants' occupational mobility experiences, and on the material rewards of work in this resource town. This chapter examines the subjective outcomes of employment in Fort McMurray. Work orientations, job evaluations, job satisfaction, and class-related attitudes are all analyzed below. The causal linkages are obviously not as simple as is implied in a general model linking changes in an industrial structure to the provision of jobs to the formation of attitudes. In fact, it can also be argued that work values and orientations are brought to a job by individual workers, rather than "created" by the job itself (Kalleberg, 1977). In the context of a rapidly expanding resource town, such an assumption may be even more appropriate. It has been suggested that instrumentally-oriented workers are more likely to migrate to such communities. On the other hand, in my earlier discussion of labour market segmentation theory I suggested that instrumental work attitudes may be created or, at least, fostered in the lower tier of primary labour markets. While recognizing that employment in Fort McMurray may also influence work orientations, these orientations are examined first in this chapter. Their effects on job satisfaction, along with those of job evaluations, are then considered.

There is little difficulty in arguing that job evaluations and material rewards of work precede job satisfaction in a causal model. But the assumption that class attitudes are a final subjective outcome is somewhat harder to defend. Like general work orientations, class attitudes may be brought to a new job in a resource town. However, most explanations of class attitude differences focus on individuals' locations in industrial and occupational structures. Since the earlier analyses of migration and occupational mobility demonstrated a substantial amount of inter-occupational and inter-sectoral movement, class values, like job satisfaction, are treated here as effects rather than as causes. Although class attitudes are examined last in this chapter, I do not attempt to argue a causal sequence between them and job satisfaction.

As in the previous analysis chapters, the merging of resource town, labour market segmentation, and other industrial sociology research topics requires an additional literature review. I begin by surveying some of the central issues in the huge job satisfaction research literature, and then comment on several general questions addressed in studies of the class attitudes of Canadians. This literature review identifies several additional but less central hypotheses. The major hypotheses examined in this chapter are: (a) Fort McMurray workers exhibit a high level of instrumentalism in their work attitudes; (b) job satisfaction is highest in the upper tier of the local core oil sector and lowest in the secondary labour market; (c) across-sector class consciousness does not exist in Fort McMurray today; and (d) independent primary labour market workers are more likely to see their interests as congruent with those of their employers while the opposite would be expected for secondary sector workers. Subordinate primary labour market workers would be more instrumental in their work orientations and less conscious of class divisions.

B. Additional Research Literatures

Job satisfaction has been studied extensively by social scientists with various research interests and with differing ideological orientations. The subject has interested sociologists of work as well as students of complex organizations. Researchers have been attracted to the topic because of beliefs that all work can and should be satisfying, or by convictions that work in capitalist society is inherently alienating. Others have pursued their research because of the belief that productivity is a function of workers' satisfaction. The job satisfaction literature, consequently, is immense with one review noting over 3000 relevant publications (Locke, 1976:1297) and another placing the total above 4000 (Burstein et al., 1975:15). An exhaustive review of this literature is impossible and probably unnecessary. However, it is useful to note some of the central research questions influencing recent research, since most of them also appear relevant in this resource town context.

The Prevalence of Job Dissatisfaction

When asked "All in all how satisfied are you with your job?", 89% of a 1973 sample of Canadian workers said they were at least "somewhat satisfied", including 40% who answered "very satisfied". Eighty-five percent of a comparable U.S.A. sample reported at least some satisfaction from their job (Burstein et al., 1975:28). When asked whether they would take the same job again, given the opportunity to start over, a considerably lower proportion of workers (61% in the Canadian study) answered affirmatively. Within all occupational categories, the use of such "behavioural intentions" measures, whether they be about taking a job again, recommending a job to a friend, or desires to quit or call in sick, typically reveals lower levels of job satisfaction than does use of global satisfaction measures (Williamson and Gartrell, 1976:75).

Explanations of the different amounts of job satisfaction revealed by the two types of questions have taken two general forms. The first emphasizes individual normative constraints on admitting dissatisfaction. In a society which posits success as a direct function of individual merit, an expression of dissatisfaction with one's job could be interpreted as a self-applied label of failure. Burstein et al. (1975:28) write that global satisfaction measures may "strike too closely and too directly at the worker's self-esteem." The second explanation proposes that workers interpret the two types of question differently. Questions about satisfaction with a particular job, it is argued, are answered with the recognition that many other better jobs are not realistic alternatives. The answers (to global questions) are simply "pragmatic judgements of one's position *vis-a-vis* the narrow range of available jobs" (Rinehart, 1978:7). But while "satisfaction is expressed within a framework of what is possible, liking is expressed within a framework of what is desirable" (Stewart and Blackburn, 1975:503). When asked about their preferences, a larger percentage of workers respond that they would prefer some other kind of work, or would not recommend their job to a friend. Thus, it is clearly important to understand the possibly differing cognitive frameworks from within which the two types of question are answered. Some researchers (e.g. Kalleberg, 1977; Kalleberg and Griffin, 1978), noting low to moderate correlations among global and various behavioural intentions measures of job satisfaction, have created job satisfaction scales from these items. Further research on differential correlates of the various measures might be useful.

The Correlates of Job Satisfaction

A wide range of explanatory variables have been introduced in job satisfaction studies. They can be usefully classified by their emphasis: on characteristics of workers, on characteristics of their jobs, and on characteristics of the organization/firm/industry in which they are employed.[91] Among *individual characteristics*, age has been examined most thoroughly. Younger workers generally report less satisfaction with their work (Burstein et al., 1975:43). As Hamilton and Wright (1978) note, the most common explanations are that: (a) younger workers have different values and aspirations (a cohort effect); (b) older workers have moved into better jobs (a life cycle effect);[92] or (c) older people have become less demanding and more accepting of their lot (an ageing effect). Hence, they are more easily satisfied. Rinehart (1978:8) argues this last thesis. Hamilton and Wright (1978) believe that the life cycle effect best describes the statistical relationships in their data. James and Martin (1982) conclude, on the basis of examination of the same data, that neither the cohort or the life cycle explanations are really satisfactory. More recently, Kalleberg and Loscocco (1983) have argued that cohort, life cycle and ageing effects on job satisfaction can all be found in U.S. national survey data. Thus, while concensus on a single explanation does not exist, the positive correlation between age and job satisfaction is seldom disputed.

Although earlier studies often showed lower satisfaction among women than among men, both the 1973 American Quality of Employment Survey and the 1973 Canadian Job Satisfaction Survey showed men and women to be equally satisfied in general with their work (Burstein et al., 1975:55–6). In a more detailed examination, women reported more satisfaction than did men with their supervisors, and less with their salaries, fringe benefits, and promotion opportunities (Burstein et al., 1975:57). These latter findings would be expected, given the stratification by gender that exists in labour markets. Using 1977 Canadian national data, Murray and Atkinson (1981) demonstrate that after controlling on a variety of job characteristics and rewards, women still report higher levels of job satisfaction than do men. Murray and Atkinson (1981) suggest, as do Glenn and Weaver (1982:53), that women may bring lower expectations to the workplace and, thus, are more easily satisfied than are men (1981:50). Miller (1980), on the basis of a more complex analysis of longitudinal data, recognizes some gender differences but concludes that "job conditions are more strongly related to job satisfaction than are the social characteristics of the workers or the predispositions they bring to the job" (1980:361). In short, the evidence is accumulating that gender is an important variable in job satisfaction research more because of the unequal nature of male and female labour markets than because of differing work values and career aspirations of women and men.

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[91] Similar typologies are provided by Locke (1976) and Kalleberg (1977). Locke (1976:1300) notes how job satisfaction research has moved from examination of physical/economic factors (e.g. pay, working conditions) to social/human relations (e.g. management styles) to the satisfying or non-satisfying characteristics of work itself (e.g. an emphasis on job enlargement). Kalleberg (1977:124–5) reviews the literature by identifying three types of explanations of job satisfaction: those that emphasize the personalities of individual workers, those that consider the characteristics of workers' jobs, and those that go beyond these factors to include examinations of the meanings which workers attach to their work.

[92] While this is called a life cycle effect, the causal emphasis is really on improved jobs rather than on an individual's age.

The simplest hypothesis linking education and job satisfaction derives from the human capital model of labour market operation. A larger investment in education should result in a more rewarding and satisfying job. Alternatively, more educated workers may expect more rewarding work and, consequently, be less satisfied than those less educated but in similar jobs (Zeitz, 1983:1091). Blauner (1964:29) argued that education created different personality types with higher-order needs. More educated individuals were more likely to desire intrinsically satisfying work, while the less educated would remain satisfied with work that was merely extrinsically rewarding. Thus, there exist several distinct hypotheses linking education and job satisfaction, but studies of these links have produced inconclusive results (Glenn and Weaver, 1982).

Researchers have long recognized that *job characteristics* can affect workers' evaluations of their jobs, although different job dimensions have been popular among different generations of researchers.[93] Much of the recent research in this area builds on the studies commissioned for the 1973 Work In America Study (Upjohn Institute, 1973; O'Toole, 1974) and employs data from the 1973 Michigan Quality of Employment Survey (Quinn and Shepard, 1974) and the 1973 Canadian Job Satisfaction Survey (Burstein et al., 1975). Respondents in these surveys were given a list of 34 job characteristics and asked, first, to rate the importance of each and, second, to evaluate their own job on each dimension. Factor analyses of these items (for both importance scores and job evaluations) identify six distinct dimensions of work (Kalleberg, 1977:128). The first, an intrinsic reward factor, emphasizes interesting, challenging, self-directed work that allows personal growth and development. The other five extrinsic factors are: convenience (comfort and ease of work), financial (pay, security, fringe benefits), relationships with co-workers, career opportunities, and resource adequacy (availability of things necessary to do the job).[94] Occupational status may also positively affect job satisfaction net of the intrinsic and extrinsic rewards of a particular job (Williamson and Gartrell, 1976:87). Workers might base some of their self-image on others' perceptions of the prestige of their job.

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[93] Herzberg's (1966) "motivator-hygiene" theory is an example of early job satisfaction research which attempted to incorporate a larger number of dimensions into one explanatory model. He argued that the fulfillment of workers' physical needs would lead to a reduction of dissatisfaction but not to job satisfaction. Only the fulfillment of psychological needs would produce job satisfaction.

Early research on the effects of organization structure on job satisfaction has been reviewed by Porter and Lawler (1965). They described how sub-unit size, span of control, and other similar variables were linked to attitudinal outcomes. More recently, Gartrell (1976) demonstrated that organization size has a small net negative effect on employees' satisfaction. Zeitz (1983) has argued that organizational morale, which he distinguishes from individual job satisfaction, is a partial function of group size. Other than this, there has been little job satisfaction research examining the influence of *firm or industry characteristics.*[95] This study begins to fill this gap by testing the hypothesis that satisfaction is highest in the upper tier of the primary labour market and lowest in the secondary labour market.

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[94] The Canadian data produced eight factors (Burstein et al., 1975:80). The two additional dimensions reflected the splitting of resource adequacy into human and non-human resources, and relationships with co-workers into supervisors and fellow-workers.

[95] Nord (1977) notes that few studies of job satisfaction question the assumption that ownership of capital brings with it the right to control the labour process. Consequently, alternative methods of control seldom appear as independent variables. There are several recent exceptions. Rothschild-Whitt (1981) describes a Dutch experiment in worker control where the owners of capital rent, for a fixed rate of return, their assets to worker-controlled corporations. Workers totally control the labour process and job satisfaction is reported to be extremely high. A recent increase in interest in Quality of Working Life (QWL) programs, which have not involved such large restructuring of traditional power relationships, may lead to an increased interest in job satisfaction outcomes. Currently, the literature contains positive assessments of QWL programs (Davis and Sullivan, 1980) as well as criticisms of such programs as merely new ways of increasing productivity (Swartz, 1981), but only few tests of specific hypotheses (e.g. Nightingale, 1981).

Job Satisfaction and its Consequences

Job satisfaction may affect other attitudes, such as general life satisfaction, but the link between these two is not particularly strong (White, 1981). Berman (1981) has shown how job satisfaction may help migrants adjust to life in a new community. Locke (1976:1328-34) discusses how job satisfaction can have positive effects on physical and mental health. However, the possibility clearly exists that both greater satisfaction and better health are consequences of better jobs. Locke also notes evidence that dissatisfaction with work is significantly associated with absenteeism and turnover. Hollinger and Clark (1982) demonstrate an association with employee deviance such as theft and tardiness. While there is very little evidence of a causal link between job dissatisfaction and productivity (Locke, 1976), research has shown that those dissatisfied with the material rewards of work are more likely to have positive attitudes toward unions (Walker and Lawler, 1979; Krahn and Lowe, 1982). Low levels of job satisfaction might also be expected to lead to heightened class consciousness, at least for the working class. However, careful tests of this basic Marxian hypothesis do not exist. Most proponents of such an hypothesis would argue that the association is a highly contingent one, and that the conditions necessary for the complete transformation of dissatisfaction into recognition of class interests are seldom found.

The Disappearing Work Ethic

The opinion that people are no longer willing to work hard has been common for decades (Burstein et al., 1975:12). Concerns about the work orientations of Canadians were strong enough to prompt federal government funding of the 1974 Work Ethic Survey. The analysts of the data collected in this national survey concluded that, while Canadian workers were fairly selective about the jobs they would take (if they could afford to be selective), they remained strongly motivated to work (Burstein et al., 1975:35). Other observers have rejected the thesis of a failing work ethic and instead diagnosed structural problems within the economic system (Berg, 1974; Basken, 1981; Frazee, 1981).

O'Toole (1977:60) wrote that

> What is clear from almost every study of job dissatisfaction is that the placing

> of intelligent and highly qualified workers in dull and unchallenging jobs is a prescription for pathology – for the worker, the employer, and the society.

This argument constitutes one of the explanations (the cohort effect) often provided for the positive correlation between job satisfaction and age: younger workers are less satisfied because they have higher expectations, they expect jobs to be intrinsically rewarding. With the exception of Gartrell's (1976) analysis of the 1974 Work Ethic data which showed high levels of alienation among more educated blue collar workers, this variant of the failing work ethic thesis has received little support (Strauss, 1974). Burstein et al. (1975:45) state that younger workers are no more likely than older workers to value intrinsic aspects of work, and are no less committed to work (1975:49). Williamson and Gartrell (1976:51) examined the same data and found little support for the hypothesis that education raises aspirations. Glenn and Weaver (1982) conclude that there is little evidence of greater dissatisfaction among educated blue-collar workers. Wright and Hamilton (1979) argue that these workers are relatively satisfied with work because they expect to be upwardly mobile in the future, a finding congruent with Burstein et al.'s (1975:49) observation that younger workers are more optimistic about the prospect of better employment in the future.

Instrumental Attitudes toward Work

Companion to the young, educated, dissatisfied blue collar worker hypothesis is the proposition that high levels of satisfaction among other blue collar workers are a product of a good match between extrinsic rewards and extrinsic needs. While Blauner (1964:29) argued that education develops intrinsic needs, other writers have simply stated that blue collar workers are satisfied if they are paid well, and if their jobs are secure. Reference is often made to Goldthorpe et al.'s (1969) "affluent workers" with their instrumental attitudes toward work. Work for them was merely a means toward a monetary end and "affluence had generally been gained through these men sacrificing directly or indirectly the possibility of a higher level of intrinsic job satisfaction" (1969:64).

Mackenzie (1974) suggests that the Luton workers were a self-selected group and that generalizations from this study to all blue-collar workers are consequently inappropriate. Alternatively, Shepard (1977), citing Kohn and Schooler's (1973) conclusion that "job affects man more than man affects job", suggests that the "affluent workers" may have acquired their instrumental attitudes because of the intrinsically non-rewarding nature of their jobs. Voydanoff (1978) and Gruenberg (1980) further advance the critique of the instrumental worker thesis by demonstrating that, for both white collar and blue collar workers, job satisfaction increases with the availability of intrinsic job rewards. Knight (1979) finds evidence of instrumental work attitudes, along with other less materialistic career ambitions, among blue- and white-collar workers.

Despite such criticisms, job satisfaction theories must still account for the fact that workers do bring some prior work orientations with them to a job (Kalleberg, 1977). Thus, the problem with this version of the instrumental worker thesis is not its emphasis on such prior work values but the suggestion that most blue-collar workers actually look for jobs with only material rewards. The argument ignores the limited job choices available to many workers (Kalleberg and Griffin, 1978:390; Rinehart, 1978:7). It may only be among specific self-selected groups such as Goldthorpe's sample or, perhaps, migrants to rapid growth resource towns, that unusually high levels of instrumentalism will be found.

Research on Class Consciousness in Canada

The question of whether wage-labourers in industrial society are "class conscious" has a long academic history. Students of industrialization have been very aware of Marx' prediction that the wage-labouring class would, in time, become conscious of its class interests and then evolve into a revolutionary class. The debate about whether we are witnessing the *embourgeoisement* of the working class or the *proletarianization* of a middle class has engaged a long line of eminent social researchers. It has also, as noted in chapter four, influenced the dual economy theorists who have proposed that segmented work creates divided workers (Gordon et al., 1982). However, little of the empirical research focusing on the actual class attitudes and behaviours of contemporary workers has been influenced by this theoretical model.

A number of Canadian studies have asked individuals to state their own class position (e.g. Rinehart and Okraku, 1974; Coburn and Edwards, 1976). Goyder and Pineo (1979) present the best summary of these studies. They demonstrate that the manner in which the question is asked influences the results. When an open-ended question is used, surveys typically reveal about 15% to 20% reporting themselves in the "lower" or "working class", over 60% stating that they are "middle class", and a large proportion (up to 17% in one study) not answering or saying that there is "no such thing" as social class. Forced-choice questions (minus the "no such thing" response category) will often produce twice as many "lower" or "working class" respondents, and somewhat fewer "middle class" and sceptical respondents. Evidence of such wide-spread acceptance of a "middle class" label has been used to argue that Canadian workers are not very conscious of their class interests.

Without information on what the term "middle class" really means to its users, such a conclusion may be premature. Grabb and Lambert (1982) demonstrate that a large proportion of Canadian adults (almost one-fifth) are unable or unwilling to explain what the term "social class" means to them. The remainder are most likely to use only economic criteria for distinguising between social classes, although more educated respondents and those with higher status occupations tend to use additional criteria. Other researchers (e.g. Rinehart and Okraku, 1974; Lambert and Curtis, 1979; Baer and Lambert, 1982) have focused on the class-consciousness issue by trying to identify groups more or less committed to beliefs about inequities in the economic system and about the autonomy of capital and the state. These few studies do not allow many confident generalizations other than, perhaps, that "only the big bourgeoisie or economic elite display evidence of any very thorough-going class consciousness, in which they are aware of their common class membership." (Hunter, 1981:226).

The earlier review of Canadian resource town studies identified one other line of research relevant to this question. Students of labour relations in single industry communities disagree on whether or not the local industrial labour forces are united in consciousness of their class interests. Some describe the militant class-based behaviour of industrial workers in isolated communities while others focus on the "us against them out there" sentiments of residents in such centres. Historical studies comparing communities of different types and in different regions might be able to explain the apparent differences in workers' class-based behaviour. However, today we might find less class consciousness in communities with more finely-stratified labour forces, more sophisticated technologies, and dominant firms more advanced in their labour relations policies. In other words, in such "new towns" we may be seeing classic examples of the segmentation of labour described by Edwards (1979), Gordon et al. (1982), and other writers in this tradition.

C. Survey Results

Fort McMurray, 1969

Matthiason's 1969 job satisfaction data were re-analyzed to correct his results (Matthiasson, 1971:39). He had reported percentages satisfied and dissatisfied with particular aspects of work for all sample members, whether or not they were employed outside of the home at the time of the survey. Table 24 presents the comparable percentages for the reduced sample of those who reported having occupations other than housewife (N = 249).[96] One third or more of these 1969 residents of Fort McMurray expressed dissatisfaction with union activities and labour-management relations. The percentage dissatisfied with fringe benefits, job security, salaries, opportunities for advancement, vacation time, and working conditions ranged between 22% and 29%. Even if we assume that non-response meant that the respondent was not currently employed, we find only about 55% of the employed were satisfied with union activities and labour-management relations. Approximately 70% were satisfied with the other extrinsic aspects of work included in Table 24. We would still have to conclude, in opposition to Matthiasson (1971:39) himself, that his data show at best only moderate job satisfaction in Fort McMurray during the time that Suncor was beginning its operations phase. These data do not really allow comment on the level of working class militancy in 1969 since we do not know what aspects of labour-management relations or union activities were considered unsatisfactory.

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[96] Job satisfaction is obviously a concept equally relevant to domestic labour, but the particular questions used in Matthiasson's study were not. My correction mainly reduced the percentage of non-response for each item. The rank order of the items, by percent satisfied, did not change and the actual percentage satisfied did not change substantially for any item. The possibility remains that some of the respondents who reported an occupation were not working for pay at the time of the interview. This may explain some of the remaining high percentages of non-response. Non-response is largest for the item on union activities, probably because non-union members would be less likely to have an opinion on this issue. The absence of a question about actual union membership precludes controlling for this factor.

Table 24: Job Satisfaction in Fort McMurray, 1969.

Aspect of work	% Satisfied*	% Dissatisfied	% NR
Union activities	42.2	33.3	24.5
Labour-management relations	45.8	38.6	15.7
Fringe benefits	55.0	26.9	18.1
Job security	56.6	28.5	14.9
Salaries	58.2	29.3	12.4
Opportunities for advancement	59.4	24.9	15.7
Vacation time	60.2	22.5	17.3
Working conditions	63.9	22.1	14.1

* Respondents in Matthiasson's survey were given only two response categories: satisfied or dissatisfied. Percentages are calculated from the sub-sample of those who reported having an occupation other than "housewife" (N = 249).

The segmentation hypothesis that core sector employees would report greater job satisfaction cannot be *directly* tested since Matthiasson's survey instrument did not ask about employer or industrial sector. However, differences in job satisfaction by gender, marital status (married; not married), age, education, occupation (managerial/professional; sales/services/clerical; other), number of full-time jobs ever held, years lived in Fort McMurray, and years planned to stay in the community were examined.

One-way analyses of variance revealed that only three of these independent variables were significantly associated ($p < .05$) with a job satisfaction index created by adding the number of items answered "satisfied".[97] Men reported somewhat less satisfaction than did women (averages of 5.26 and 6.19, respectively). Respondents in managerial/professional occupations (average score = 5.80) and clerical/sales/service occupations (average = 5.90) appeared to be more satisfied with these extrinsic aspects of their work than were the remainder of the respondents (average = 5.04). Also, longer-term residents of the community were least likely to report high levels of job satisfaction. The average index score for those with less than one year's residence was 6.0, compared to 5.15 for those who had lived there between one and four years, and 4.89 for longest-term residents. This might mean that recent arrivals had found better jobs with Suncor while longer-term residents were remaining employed in the local periphery sector. But since most Suncor employees would be men and would be in the "other" occupational category (groups reporting lower satisfaction on this index), this explanation is not supported.

Similar analyses which used the same set of independent variables with *individual satisfaction items* as dependent variables were also examined. Again, few statistically significant associations were found, but some of those which did appear help us to explain the overall pattern of results. Vacation time is the only specific item with which length of residence in the community is significantly associated. This suggests that longer-term residents in 1969 may have had low average satisfaction index scores in part because they had a stronger desire to get out of this relatively isolated and under-serviced community. Women were significantly more likely to report satisfaction with salaries and job security. Since there is absolutely no evidence that in Fort McMurray in 1969 women actually had better salaries and more job security than did men, we must conclude that these women probably had lower expectations in terms of these aspects of their jobs. Given these expectations, they were willing to say that they were satisfied. Supportive of this conclusion is the fact that respondents with clerical, sales or service occupations (which are disproportionately held by women) were also significantly more likely to be satisfied with fringe benefits and vacation time.

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[97] Cumulative missing data problems reduced the sample for these analyses to 180 individuals reporting an occupation.

The crudely categorized occupational variable was significantly associated with the labour–management relations, salaries, fringe benefits, vacation time, and job security items. For all but the vacation time item where managers and professionals were least satisfied, followed by "other" occupations, the "other" category reported the least satisfaction. Since this category excludes higher status jobs and predominately female jobs (sales/services/clerical), we are essentially talking about male blue–collar workers in Fort McMurray's two major industries – oil and construction. We might tentatively conclude that in 1969 in Fort McMurray, men working in these sectors were least satisfied with most extrinsic aspects of their work as well as with labour management relations. While I cannot comment on the intrinsic rewards of work which are central to the segmentation hypothesis, there is no support for the proposition that greater extrinsic rewards in these core sectors lead to greater job satisfaction.

The Work Ethic and Instrumental Work Attitudes: Fort McMurray, 1979

Matthiasson's questionnaire included no further work–related questions. In the 1979 survey, currently employed respondents were asked to answer, on a seven–point scale, whether they strongly disagreed (1) or strongly agreed (7) that: "I wouldn't mind being unemployed for a while." A substantial majority of this sample (68%) agreed that a period of unemployment would not bother them (Table 25). In fact, 60% agreed strongly with the statement. A very similar statement was included in the 1974 national Work Ethic Study. The difference between the Fort McMurray distribution and the national distribution is very large. Only 39% of the Work Ethic Study respondents agreed, including a very small number who agreed strongly. A small part of this difference may have been created by minor wording differences. A larger part might be a function of differing age distributions. The Fort McMurray sample of workers are considerably

Table 25: Work Attitudes: Fort McMurray, Edmonton, and Canada.

I wouldn't mind being unemployed for a while.
[I don't mind being unemployed for a while.]*

	Fort McMurray (1979)		Canada (1974)@	
% Agree	7.9	67.6	29.5	39.4
% Strongly Agree	59.7		9.9	
(n)	(299)		(1327)	

If I could earn twice as much as I do now I would take any job.
[If I could earn $7 an hour, I would take any job.]*

	Fort McMurray (1979)		Edmonton (1982)		Canada (1974)@	
% Disagree	25.3	55.1	36.9	68.5	28.4	65.1
$ Strongly Disagree	29.8		31.6		36.7	
(n)	(297)		(294)		(1324)	

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* Wording in square brackets was used in the 1974 Work Ethic Study with four response categories (Agree strongly, Agree somewhat, Disagree somewhat, Disagree strongly). The Fort McMurray and Edmonton surveys used a strongly disagree (1) - (7) strongly agree scale so in this table "strongly agree" represents a score of 7 while "agree" contains scores of 5 and 6.

@ Source: Williamson and Gartrell (1976:13-15).

younger than average (i.e. than the national sample), as would be any sample of recent migrants. Younger workers may have fewer financial responsibilities and will have grown up in an era characterized by available unemployment insurance and other forms of social security. They may also have different (less materialistic) criteria for success. In short, they may have a somewhat weaker commitment to the work ethic. [91]

It is also possible that fear of unemployment is a function of labour market opportunities. If jobs are plentiful, workers may be more likely to agree with the statement. This interpretation suggests that characteristics of the local labour market, rather than characteristics of individuals, influence responses to such an stimulus. Hence, Fort McMurray workers in 1979 would be expected to be less concerned about unemployment than would typical Canadian workers. This argument is supported by the finding in the Fort McMurray data that employed women were significantly less likely than employed men to agree with this statement (below in Table 26). This might be a consequence of the perceived ease with which unemployed men, compared to unemployed women, could find a new job in Fort McMurray.

The second questionnaire item displayed in Table 25 is a good measure of the concept of instrumental attitudes towards work. Fifty-five per cent of the 1979 Fort McMurray sample of workers *disagreed* with the statement "If I could earn twice as much as I do now, I would take any job." Eleven per cent chose the neutral category, while 34% agreed that enough money would lure them to any job. In the 1982 Edmonton Area Study where the same question was included, 69% of full-time employed respondents disagreed with this statement. The 1974 Work Ethic Study contained an item which was designed to measure the same concept but which was considerably dated by 1979. Sixty-five per cent of this national sample disagreed with the statement that "If I could earn $7 an hour, I would take any job."

These comparisons, along with the large proportion of Matthiasson's 1969 sample who stated that they had moved to Fort McMurray for financial reasons (chapter six), supports the hypothesis that resource towns attract instrumentally oriented workers. However, for both of the attitude statements included in the 1979 survey, women were

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[91] This is the argument presented by Burstein et al. (1975:43) who compare responses of a young Opportunities for Youth (OFY) group to the national sample responses to this item. Fifty-three per cent of the young group "don't mind being unemployed for a while" compared to 39% of the national sample.

less likely to agree than were men (Table 26). Since we know that it is mainly men who are employed in the oil companies, it is possible that the higher than normal community level of agreement is inflated by exceptionally high agreement among men in the subordinate primary labour market. This is, of course, the segmentation hypothesis introduced earlier: instrumental work attitudes are more likely to be found among workers in this labour market. The data do not support this hypothesis (Table 26). Men in the core sector are less likely than are men in the periphery sector to agree that they would take any job for twice the pay. Within the core sector, there is virtually no difference between upper and lower level workers. It remains possible that greater instrumentalism among subordinate primary sector workers would be detected with items focusing on fringe benefits and job security. But with this pay-specific measure of instrumental work attitudes, the segmentation hypothesis is not supported.

Job Evaluations

Included in the 1979 Fort McMurray questionnaire was a group of job description and evaluation items previously used in the national Job Satisfaction Survey and also in University of Michigan Quality of Employment Surveys. All of the items used in these other studies could not be included in the survey instrument and some of those used were modified to sharpen their focus. The final list included items intended to index the quality of social relations in the workplace, the amount of personal control by workers over their work, the complexity of the job, and the speed and repetitiousness of work. Extrinsic rewards measured in this manner were the quality of fringe benefits and the fairness of promotions (although this second item might also index the quality of labour-management relations). The 1982 Edmonton Area Study included similar items as well as additional evaluative measures of job security and pay, and thus is a useful source of comparison data.

The distinction between job descriptions, job evaluations, and job satisfaction is not always clear (Locke, 1976:1334). It is probably safe to say that the statement "my job requires me to work very fast" is descriptive but not evaluative, and certainly not a good measure of job satisfaction. The same does not apply to "my supervisor is very concerned about the welfare of those under her/him". Some individuals may simply be

Table 26: Work Attitudes in Fort McMurray by Gender by Sector by Class.

	Average scores[*]	
	I wouldn't mind being unemployed for a while.	If I could earn twice as much as I do now I would take any job.
Women	4.72 (106)#	3.14 (106)
Oil company	4.50 (16)	2.94 (16)
Man./prof./tech.	5.50 (6)	2.00 (6)
Other	3.90 (10)	3.50 (10)
Non-oil company	4.76 (90)	3.18 (90)
Man./prof./tech.	4.45 (20)	1.90 (20)
Other	4.84 (70)	3.54 (70)
Men	5.80 (193)	3.56 (191)
Oil company	5.92 (103)	3.39 (101)
Man./prof./tech.	5.20 (35)	3.35 (34)
Other	6.29 (68)	3.40 (67)
Non-oil company	5.66 (90)	3.74 (90)
Man./prof./tech.	4.92 (13)	3.46 (13)
Other	5.78 (77)	3.79 (77)
Total	5.41 (299)	3.40 (297)

[*] Responses were given on a 'strongly disagree (1) - (7) strongly agree' scale so a higher average reflects greater agreement with the statement. The gender difference for the first statement is statistically significant ($p < .05$), as are the class differences for men in the oil company (statement one) and for women not employed in these companies (statement two).

[#] Sub-sample sizes in parentheses.

describing an aspect of their job, others may be evaluating it (is it "good" or "bad"?), and others may be telling the interviewer about their satisfaction with this feature of their work.[99] But, as I argued earlier in this chapter, workers' job preferences (job satisfaction measured with "behavioural intentions" measures) can differ substantially from their evaluations of the job they have. Consequently, following Kalleberg (1977), I have chosen to consider all of these items as respondents' descriptions of particular features of their jobs, even though I cannot determine either the accuracy of the assessments or their overlap with job satisfaction.

Fort McMurray workers' responses to each of these items are examined in Table 27, which also includes comparison data from Edmonton. Looking first at the total sample of full-time employed Fort McMurray residents (column three) it is apparent that the social interaction dimension of work, the issues of having enough control and authority, and of having contact with the product of one's work are described more positively than are more extrinsic matters such as promotions and fringe benefits. The same relative ranking is found in the 1982 sample of Edmonton workers (column six) who, in addition, are not very likely to state that good pay and good job security are characteristic of their work. Respondents in the 1973 Canadian Job Satisfaction Study also were more likely to agree that their work was intrinsically and socially rewarding than that it was extrinsically rewarding (Burstein et al., 1975:32).[100] Thus, Fort McMurray workers, like their

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[99] Even more difficult to untangle is the distinction between respondents' reports of how important these specific aspects of work are to them (what they want from a job), and how rewarding their own jobs are on each of these dimensions. For example, Kalleberg (1977) and Kalleberg and Griffin (1979) examined the net effect of both job values (importance scores) and job rewards on job satisfaction. The moderate size correlations between job descriptions/evaluations and the importance scores (averaging .32 in Kalleberg, 1977:129) might mean that workers who value particular aspects of work are attracted to jobs where these aspects are prominent. They might also mean that the two measures are not totally independent.

[100] Burstein et al. (1975:32) explicitly interpret these job descriptions as measures of satisfaction: "the assumption was made that a rating of 'very true' indicated a satisfaction score of 'very satisfied'". As already conceded, job evaluations and reports of job satisfaction are difficult to distinguish from each other. Interpreting all of these items as descriptions/evaluations is the conservative approach. Interpreting all of them as indicators of job satisfaction may be reading more into them than is appropriate, but it also leads to another problem. Our attention is diverted from the objective characteristics of the jobs (we are being told that the pay, job security, chances for promotion and so on are not very good) to workers' evaluations of how satisfied they are with these things. Thus, Burstein et al. (1975:60) conclude that "having enough authority and information, friendliness of co-workers and supervisors, having interesting tasks, and seeing the results of one's work emerge as the most satisfying characteristics. Less satisfaction is derived from job security, hours of work, quality of supervision, pay, fringe benefits, and promotional opportunities." This subtle change of emphasis encourages us to ask "why are workers less satisfied" rather than "why are the jobs not very good?"

Table 27: Job Evaluations: Fort McMurray and Edmonton by sector.

	Average scores[*]					
	Fort McMurray			Edmonton		
	oil company	other	total	core[#]	periphery	total
Friendly/helpful workmates	5.80[@]	6.11	5.99	6.04	6.06	6.05
Enough authority to do own job	5.54[@]	6.08	5.87	5.89[@]	6.21	6.03
Can see results of work	5.16[@]	5.99	5.66	5.67	5.98	5.80
Decide how to do own job	5.53	5.45	5.48	----	----	----
Job requires special training	5.82[@]	5.21	5.46	5.50	5.27	5.40
Supervisor concerned	5.07[@]	5.61	5.39	5.27	5.33	5.30
Job leads to close friendships	4.86[@]	5.46	5.22	4.95	4.89	4.92
Opportunity to develop special abilities	4.87[@]	5.38	5.18	5.27[@]	5.72	5.46
Good fringe benefits	5.54[@]	4.33	4.81	5.46[@]	4.87	5.21
Job requires fast work	4.62	4.84	4.76	4.67	5.01	4.81
Job requires doing things over and over	4.42	4.73	4.61	4.57	4.33	4.47
Promotions handled fairly	4.25[@]	4.83	4.58	4.91	5.13	5.00
Good job security	----	----	----	5.72[@]	5.23	5.49
Good pay	----	----	----	5.09	5.02	5.06

[*] Responses to all statements were on a 1 - 7 scale with higher scores reflecting a more positive evaluation of a particular dimension. On the "fast work" and "doing things over and over" items, higher scores represent agreement that this describes the respondent's job.

[#] Core-periphery sectors identified following Boyd and Humphreys (1979) classification system.

[@] Difference is statistically significant ($p < .05$).

counterparts in other parts of the country, are more positive in their descriptions of the social relations at work, the amount of control they have over work, and the opportunities they have for self-development, than they are in their descriptions of benefits and promotions.

Central to the labour market segmentation model is the argument that jobs are better, on a variety of dimensions, in the labour markets of the core sector. Columns two and three of Table 27 contain average responses from core and periphery sector workers for each of the job evaluations items. Statistically significant differences in responses between core and periphery sector workers are found for nine of the twelve items used in the Fort McMurray questionnaire. Oil company workers are more likely to say that their jobs require special training, a not unexpected finding given the relatively complex technology used in the oil refining plants. They are also very much more likely to say that "the fringe benefits are good". Again, the earlier detailed examination of the composition of fringe benefit packages prepares us for this difference. However, the remaining seven significant differences are in the *direction opposite to that predicted by the segmentation model*. Oil company workers are less likely to agree that their workmates are friendly and helpful, that they have enough authority to do their own job, that they can see the results of their work, that their supervisor is concerned about their welfare, that their job leads to close friendships, that they can develop their own special abilities, and that promotions are fair. Contrary to my hypothesis, core sector workers describe their jobs less positively in all but the material rewards dimension and the necessity of training dimension.

Firms in Fort McMurray's core industry, particularly Syncrude which in 1979 had only recently begun operations with its new "team concept", might be non-representive of core sector firms. Division of the 1982 sample of Edmonton workers into core and periphery sector workers, following Boyd and Humphreys (1979), allows us to test the hypothesis in another more typical urban setting (Table 27). Fewer significant differences by sector are found in the Edmonton sample (columns four and five). Core sector workers are more favourable in their descriptions of their fringe benefits and their job security. They are significantly less favourable in their assessments of the opportunities for developing special abilities, and the amount of authority they have to do their work. Thus, the 1979 Edmonton findings also provide support only for the prediction that core sector workers evaluate more positively the extrinsic rewards of their work. Neither study supports the hypothesis of more positive evaluations of intrinsic rewards and social aspects of work from core sector workers. Fort McMurray simply appears to be a more extreme case. This in itself is interesting. Fort McMurray's largest core employer (Syncrude) was, in 1979, attempting to introduce the type of managerial system which segmentation theorists describe as being capable of increasing the satisfaction and allegiance of workers. Syncrude would be where we would expect to find the more positive descriptions of work.[101] The contrary finding may mean that the segmentation labour process model is faulty. It might also mean the combination of "bureaucratic control" (Edwards, 1979) or "limited autonomy" (Friedman, 1977) and instrumentally oriented workers do not always lead to expected outcomes. Finally, it might only be after several years of operation that we would expect to see the predicted outcomes of Syncrude's "team concept" managerial strategies.

It is possible that the sector differences reflect differences in the characteristics of workers in the core and periphery labour markets. Core sector (oil company) employees are more educated and predominantly male, and thus may descibe/evaluate their jobs less positively. If we calculate zero-order correlation coefficients between a binary variable for core sector employment (oil company = 1) and the seven job description/evaluation items showing significant core-periphery differences (Table 27), we obtain correlations ranging from −.118 to −.285. Examination of partial correlations between the oil company binary variable and the seven job description items, controlling on education and gender of respondent (as well as age and length of time on the job) leads us to reject this explanation. The correlation coefficients do not change direction or size when controlling on these demographic variables, individually or in combination.

Table 28 takes the discussion away from characteristics of individual workers back to the characteristics of Fort McMurray labour markets. Average responses for the twelve job description/evaluation items by gender by sector by class position are displayed in this table. Women are significantly less likely to report that their jobs require special training and have good fringe benefits, and significantly more likely to have to work

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[101] Further analyses revealed that Syncrude employees, compared to other oil company workers, were less positive in assessments of how much authority they had to do their own job ($p < .05$) and of the concern shown by their supervisors ($p < .10$).

Table 28: Job evaluations by gender by sector by class.

	Average scores*											
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Women (106)#	6.13	5.93	5.18	5.47	5.10	5.64	5.28	5.22	4.25	5.30	5.10	4.55
Oil company (16)	6.25	5.75	5.38	5.88	5.13	6.00	4.33	4.81	5.31	5.56	5.00	4.07
Man/prof./tech. (6)	6.50	5.83	5.67	6.00	6.00	5.80	4.60	5.33	5.00	6.00	4.50	3.75
Other (10)	6.10	5.70	5.20	5.80	4.60	6.11	4.20	4.50	5.50	5.30	5.30	4.20
Non-oil company(90)	6.11	5.97	5.89	5.40	5.10	5.88	5.43	5.29	4.06	5.25	5.12	4.64
Man/prof./tech.(20)	5.95	5.70	5.45	5.95	6.60	5.06	5.60	5.80	4.58	5.40	5.35	4.43
Other (70)	6.16	6.04	6.01	5.24	4.67	5.71	5.39	5.14	3.91	5.20	5.06	4.69
Men (193)	5.91	5.83	5.58	5.49	5.65	5.26	5.19	5.16	5.12	4.46	4.34	4.60
Oil company (103)	5.73	5.50	5.13	5.48	5.93	4.94	4.93	4.88	5.58	4.47	4.33	4.28
Man/prof./tech.(35)	5.60	5.51	5.66	5.94	6.03	4.82	4.17	4.60	5.38	4.32	3.54	4.36
Other (68)	5.79	5.50	4.85	5.23	5.88	5.00	5.32	5.03	5.68	4.54	4.75	4.24
Non-oil company(90)	6.11	6.20	6.09	5.50	5.32	5.64	5.48	5.48	4.60	4.45	4.34	5.00
Man/prof./tech.(13)	5.62	6.15	5.54	5.76	6.00	5.55	4.92	5.54	4.77	5.00	3.54	5.11
Other (77)	6.19	6.21	6.18	5.45	5.21	5.66	5.57	5.47	4.57	4.36	4.48	4.99
Total (299)	5.99	5.87	5.66	5.48	5.45	5.39	5.22	5.18	4.81	4.76	4.61	4.58

* Averages on a 1 to 7 scale (approximate sub-sample sizes in parentheses) for the following items: 1. Friendly/helpful workmates; 2. Enough authority to do own job; 3. Can see results of work; 4. Decide how to do own job; 5. Job requires special training; 6. Supervisor concerned; 7. Job leads to close friendships; 8. Opportunity to develop special abilities; 9. Good fringe benefits; 10. Job requires doing things over and over; and 12. Promotions handled fairly.

# Gender differences are significant ($p < .001$) for items 5, 9, 10, and 11.

fast and to do repetitious work. In short, along with being paid substantially less and experiencing little occupational mobility with migration to the community (chapters six and seven), women report having poorer jobs.

Further comparisons within and across gender groups reveal that the core-periphery differences already noted are somewhat larger among men than among women. For items two, three and six in this table, for example, the across-sector female difference is not as large as the comparable male difference. There are also some prominent class differences within gender and sector categories. For example, among men employed by the oil companies, managers, professionals and technicians are much less likely to say that their job leads to close friendships, but more likely to report that they can decide how to do their own job. However, there does not appear to be any strong and systematic pattern whereby managerial/professional jobs are "better". Only for the items about deciding how to do one's job (item four) and requiring special training (item five) is there a systematic class difference across all gender and sector categories, and these differences are not very large.

It appears then that descriptions of job characteristics vary across labour market boundaries formed by industrial sectors, class distinctions, and the gender of workers. Table 29 provides a comparison of the relative effects of these factors. Zero-order correlations between each item and binary variables for gender (male = 1), class (managerial/professional/technical jobs = 1), and sector (oil company = 1) are presented. The table also contains standardized regression coefficients for multiple regression equations in which the three binary measures are used as independent variables. The amount of "variance explained" is limited (between 2% and 10%), but several conclusions can be drawn from these analyses. First, for a majority of these job descriptions, sector of employment has the strongest net effect (comparing standardized regression coefficients within equations). Second, controlling on class and gender, one still finds that oil company workers are significantly less positive about the amount of authority they have to do their own job (beta = -.194), the chance to see the results of their work (beta = -.272), the friendships developed on the job (beta = -.168), the chance to develop special abilities (beta = -.149), and the handling of promotions (beta = -.173). Third, there are some additional gender and class effects evident, controlling on the industrial

Table 29: Job evaluations by gender, sector and class: multiple regression equations.#

	Gender		Class		Sector		
	r	beta	r	beta	r	beta	R^2
Friendly/helpful workmates	-.085	-.052	-.097	-.081	-.120	-.086	.023
Enough authority to do own job	-.035	.038	-.065	-.030	-.185	-.194*	.036
Can see results of work	-.071	.030	-.028	.021	-.257	-.272*	.067
Decide how to do own job	.004	.006	.152	.153*	.024	-.007	.023
Job requires special training	.160	.123*	.254	.237*	.184	.095	.097
Supervisor concerned	-.098	-.054	-.096	-.073	-.147	-.111	.029
Job leads to close friendships	-.026	.039	-.170	-.141*	-.178	-.168*	.053
Opportunities to develop abilities	-.014	.042	-.010	.018	-.130	-.149*	.019
Good fringe benefits	.206	.114	.060	.014	.294	.250*	.098
Job requires fast work	-.242	-.248*	.041	.035	-.068	.018	.060
Job requires doing things over and over	-.178	-.185*	-.140	-.143*	-.073	.022	.051
Promotions handled fairly	.011	.077	-.036	-.003	-.144	-.173*	.026

Sample sizes for the regression equations were about 299 for all items except for 'supervisor concerned' (n = 285) and 'promotions handled fairly' (n = 270). R^2 is adjusted for sample size.

* Regression coefficient is significantly larger than zero ($p < .05$).

segmentation effect. Women are less likely than men to be in jobs requiring special training (beta = .123), and more likely to be required to work fast (beta = −.248) and to do repetitious work (beta = −.185). Managers, professionals, and technicians are more likely than other workers to be able to make decisions about their job (beta = .153), and to be in jobs requiring special training (beta = .237). They are less likely to report that close friendships are made on the job (beta = −.141) and that their work is repetitious (beta = −.143). Thus, for job characteristics where gender makes a significant difference, women report "poorer" jobs. For those aspects of work where class position has a significant net effect, workers in the managerial/professional/technical class tend to report "better" jobs. The one exception is the "close friendships" item.

The above analyses inform us about the segmentation of the local labour market by industrial sector, by gender, and by class. Littlejohn and Powell's (1981) study of native Canadians' integration into the Fort McMurray labour force allows a further brief examination of segmentation by race. One hundred and eighty Indian and Metis residents of the community (including 90 who were not employed) were selected non-randomly and interviewed in this study which included some of the same questions about job characteristics analyzed above. Littlejohn and Powell (1981:94−5) present percentage distributions of responses from their 90 employed sample members, but do not break down these responses by sector or employer. Thus we cannot test core-periphery hypotheses. But we can look at the average assessments of their jobs by members of a visible minority group which, according to Littlejohn and Powell (1981), is not integrated into the local economy.

After transforming the percentage distributions into average scores we find that extrinsic dimensions of work (pay and promotions) are rated negatively compared to intrinsic dimensions (Table 30). In this, the sample of native Canadians differs little from the main Fort McMurray sample. Much more interesting are the huge differences between the average responses of employed native Canadians and of members of the main sample. Use of a one to one hundred scale allows us to directly compare the two samples (Table 30). We find that while Fort McMurray workers in general rate the friendliness and helpfulness of workers very positively (87 out of 100), the Indian/Metis sample members give this dimension of their jobs an average score of only 55. Their highest evaluation

Table 30: Job evaluations: general and native Canadian samples.

	Average scores (x/100)*	
	General sample	Indian/Metis sample
Friendly/helpful workmates	83	55
Can see results of work	78	50
Decide how to do own job	75	38
Job requires special training	74	43
Supervisor concerned	73	57
Get raises and promotions when I should#	--	26
(N)	(app. 305)	(90)

* Original responses for the general sample were on a 1 to 7 scale with higher values reflecting a more positive evaluation. Respondents in the native Canadian sample chose responses from "Never, Sometimes, Often, Always" or "A lot, Some, Not at all", depending on the question. The 1 to 7 scores have been transformed into a 0 to 100 scale while the verbal responses were assigned scores of 1 to 3, or 1 to 4, and then also transformed into a 0 to 100 scale.

(concerned supervisors) translates into a low 57 out of 100 while the lowest (pay and promotions) becomes 26. The comparable "promotions are handled fairly" average for the Fort McMurray general sample is 60, while the comparable "good pay" average from the Edmonton sample is 68 (from Table 27).[102]

These very large differences between samples are not a product of Indians and Metis working primarily in the periphery sector. Littlejohn and Powell's (1981) sample was stratified to include 60 oil company workers and only 30 others. If anything, core sector workers are over-represented. The negative evaluation of instrinsic, social relational, and extrinsic dimensions of work come from within both sectors and suggest that substantial segmentation by race may be occuring alongside and within industrial sector segmentation in Fort McMurray. This is, of course, in line with the conclusions of Littlejohn and Powell (1981) and Assheton-Smith (1979) who assess native Canadian participation in the local economy as marginal.

The various job evaluation/description items discussed above are all potential predictors of job satisfaction but they need to be reduced to a smaller number of measures. This might be done by selecting individual items which unambiguously focus on specific dimensions of work. An alternative is to use factor analytic techniques to separate into groups those items which tap similar underlying dimensions. A combination of these approaches was employed. Since the only clearly identifiable extrinsic reward item was "The fringe benefits are good", it was immediately selected and then omitted from the factor analysis.[103]

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[102] Tests of the significance of the differences between samples are not performed since the Indian/Metis sample was not randomly selected.

[103] I have found some evidence that instrumental workers may be attracted by Fort McMurray's reputation for high incomes, and that core sector workers evaluate only the material benefits dimension of their work more positively than do periphery sector workers. Both of these findings highlight the absence of the "my pay is good" item from the Fort McMurray survey instrument. An alternative available question is: "Do you think that a year from now you (and your family) will be better off financially, or worse off, or just about the same as now?". The question taps optimism about a respondent's financial future which may result from an individual's assessment of his or her own income. Both the "financial optimism" and the "my pay is good" items were used in the 1982 Edmonton Area Study. For the sub-sample of full-time employed respondents, the correlation between the two measures was weak, in the "wrong" direction, and non-significant ($r = -.087$; $p > .05$). The financial optimism measure does not appear to be an alternative to "my pay is good". It does, however, appear to be sensitive to differences over time and across cities in perceived economic opportunities. From comparable random sample surveys, we find that for full-time employed respondents, 74% were financially optimistic in Fort McMurray in 1979 compared to 62% of the 1979 Edmonton Area Study respondents. By 1982, when the recession had begun to affect Edmonton, only 51% reported such optimism. While this item cannot substitute for an income evaluation, it may

The items about having to work fast and having to do things over and over were similarly chosen because of their direct focus on the speed and repetitiousness of work. Factor analysis of the remaining nine items available in the 1979 Fort McMurray data set (see Table 27) revealed the three dimensions shown in Table 31.

The first and most important factor I have called "social relations at work". Items loading highly on this factor were those asking about a concerned supervisor, friendly and helpful workmates, the fairness of promotions, and the chances to make friends at work (Table 31). The second "job control" factor is represented by the two items which emphasize the amount of personal control over his/her work held by an individual respondent. A final "job complexity" factor contains high loadings for the questions about chances to develop special abilities and about the necessity of special training. The statement "I can see the results of my work" does not load particularly high on any of these three factors.[104]

The items loading highly on each of the three separate factors were averaged to create indices of "social relations at work", "job control", and "job complexity" for subsequent multi-variate analyses of job satisfaction.[105] "I can see the results of my work" was retained for these analyses as well, even though it did not form an additional factor or load highly on the three factors identified. The item may be useful since it appears to measure quite clearly the "alienated from the product of one's work" aspect of alienation (Archibald, 1978). It may also clearly differentiate the oil company employees who, because of the continuing process technology with which they work, never really see the results of their work.

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[103](cont'd)still be a useful predictor of job satisfaction.

[104] Separate factor analyses for sub-samples of employed men and employed women produced some minor changes in factor loadings but did not suggest the existence of different response configurations.

[105] The "concerned supervisor" item was not answered by 20 of the full-time employed respondents while 35 did not respond to the item about fair promotions. Hence, the "social relations at work" index was calculated from a minimum of two items so that cumulative missing data problems did not reduce the sample size dramatically. The limited number of items used led to only moderate inter-item reliabilities for the "social relations at work" index (Alpha = .64) and the "job control" index (Alpha = .55), and a lower level of reliability for the "job complexity" index (Alpha = .39).

Table 31: Job evaluations: factor analysis results.

	Varimax Rotated Factor Matrix		
	Factor 1 Social Relations	Factor 2 Control	Factor 3 Complexity
Supervisor concerned	.634	.329	-.043
Friendly/helpful workmates	.569	.210	-.021
Promotions handled fairly	.477	.239	.201
Job leads to close friendships	.460	-.019	.075
Enough authority to do own job	.364	.715	-.034
Decide how to do own job	.042	.498	.302
Opportunity to develop special abilities	.395	.266	.528
Job requires special training	-.017	.024	.523
Can see results of work	.367	.317	.096

Job Satisfaction in Fort McMurray

All employed respondents in the 1979 study were asked two hypothetical questions designed to index job satisfaction. The first "behavioural intentions" item was:

> Knowing what you know now, if you had to decide all over again, would you take the same job without any hesitation, would you probably take the same job, would you have some second thoughts, or would you decide definitely not to take the same job?.

The second was:

> If a good friend was interested in working in a job like yours for your employer, what would you tell (him/her)? Would you strongly recommend the job, would you probably recommend it, would you have doubts about recommending it, or would you strongly advise (him/her) against it?

Comparability of Fort McMurray response distributions to national parameters is obtained by examining results from the 1973 Job Satisfaction study (Burstein et al., 1975:29) which included items with almost identical wording but one fewer response category (Table 32).

A large proportion (58%) of these full-time employed residents of Fort McMurray said that they would not hesitate to take the same job again. About 36% were not certain that this would be their choice, but 7% were quite certain that they would not choose the same job again. Thus, this group differed little in its distribution of responses from the national sample interviewed in the Job Satisfaction study. Similar results were obtained in the 1981 Edmonton and Winnipeg Area Studies where 62% and 65% of employed respondents, respectively, said they would take the same job again.[106]

Only 45% of the employed Fort McMurray respondents said that they would strongly recommend their job to a friend. Half of the sample exhibited some degree of uncertainty, while 5% were certain that they would advise a friend against taking the same job. This distribution does differ from the national study results where 59% stated that they would strongly recommend their job to a friend. There are at least two possible explanations for the substantially larger percentage of Fort McMurray workers who would take the same job again (58%) than would recommend it to a friend (45%). It may be that the first question carries more personal normative constraints. Admitting that you would

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[106] In these two studies, respondents answered either "yes" or "no" to: "If you had the choice to make again, would you choose the same type of work you now do?"

Table 32: Job satisfaction in Fort McMurray, 1979 and Canada, 1974.

Fort McMurray*			Canada#	
Take same job again?				
Take job without hesitation	57.5%		Take job without hesitation	61%
Probably take job	22.4%	35.8%		
Some second thoughts	13.4%		Some second thoughts	33%
Decide not to take job	6.7%		Definitely not	6%
	100.0%			100%
Recommend job to a friend?				
Strongly recommend	44.7%		Strongly recommend	59%
Probably recommend	39.8%	49.8%		
Have doubts about recommending	10.0%		Have doubts	34%
Advise against	5.5%		Advise against	7%
	100.0%			100%

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* Sample sizes were 299 and 291, respectively.

# Source: Burstein et al. (1975:29).

not make the same mistake a second time is an implicit admission that you made a mistake the first time. However, in the other question the focal point is the friend rather than the respondent, and it may thus be easier to be critical of one's job. The problem with this explanation is that you would expect a similar percentage difference, but do not find it, in the national sample (Table 32). Presumably the same normative constraints would be active in other communities.

A second explanation might be that, on the average, jobs in Fort McMurray are less satisfying than typical Canadian jobs. Workers who have migrated to this community, quite probably for financial reasons, may recognize this but a majority are still willing to state that they would do so again. The high incomes which work in this community can provide may compensate for a relative lack of satisfaction with other aspects of work. However, recommending this job to a friend is another matter since even an instrumentally motivated worker may be aware that others would not or could not be satisfied with the total job package. The second explanation accepts that job satisfaction may be somewhat lower than average in this community, at least for certain aspects of work. The earlier analysis of Matthiasson's 1969 survey data also revealed an apparently lower than average level of job satisfaction. While the questions used in the two surveys are not directly comparable, it is probably fair to conclude that at both time-points, reported job satisfaction in this community was somewhat lower than the Canadian norm.

The major segmentation hypothesis in this chapter states that core sector workers will report greater job satisfaction than will periphery sector employees. Several alternative explanations (with emphases on technology, on labour control strategies, and on extrinsic rewards of work) were suggested but a choice from among them is not necessary since sectoral differences in job satisfaction are not found (Table 33). Oil company workers do not report significantly higher levels of satisfaction with their work. Among both men and women, average responses to these two measures differed very little by sector. Furthermore, there are not statistically significant gender differences or class differences within sectors. There is simply no evidence of substantial systematic variations in job satisfaction by industrial sector, gender or class position (Table 33).

This failure to find support for the segmentation hypothesis is repeated in a brief examination of data from the 1982 Edmonton Area Study. Boyd and Humphreys' (1979)

Table 33: Job satisfaction by gender by sector by class.

	Average scores*	
	Take same job again?	Recommend job to a friend?
Women	3.38 (104)#	3.29 (103)
Oil company	3.44 (16)	3.25 (16)
Man./prof./tech.	3.83 (6)	3.33 (6)
Other	3.20 (10)	3.20 (10)
Non-oil company	3.36 (88)	3.30 (87)
Man./prof./tech.	3.33 (18)	3.17 (18)
Other	3.37 (70)	3.33 (69)
Men	3.27 (192)	3.21 (185)
Oil company	3.23 (102)	3.24 (99)
Man./prof./tech.	3.26 (35)	3.15 (33)
Other	3.21 (67)	3.29 (66)
Non-oil company	3.32 (90)	3.16 (86)
Man./prof./tech.	3.15 (13)	3.25 (12)
Other	3.35 (77)	3.15 (74)
Total	3.31 (296)	3.24 (288)

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* See Table 9 for the response categories for these two job satisfaction questions. The four possible responses were assigned scores of 1 to 4 with higher values representing greater satisfaction (more likely to take the same job again, and more likely to recommend the job to a friend).

# Sub-sample sizes in parentheses.

classification system was used to separate full-time employed sample members into core and periphery sector groups. Although core sector workers reported somewhat higher average job satisfaction on a global measure (How satisfied or dissatisfied are you with your job?), the difference was not statistically significant ($p > .10$). But Clairmont and Jackson (1980:43) report that 65% of their public sector employees stated they would take the same job again, compared to only 50% of their marginal work world employees. This finding suggests a test of differences in job satisfaction between oil company employees, state employees (federal, provincial and municipal level), and other workers in the Fort McMurray peripheral sector. Such a test with both satisfaction measures failed to uncover the predicted differences. Again, there is no support for the hypothesis that job satisfaction is greater among employees of the core oil sector, or among workers employed by governments and receiving some equivalence of extrinsic rewards and job security.

Earlier, I reported the much less positive evaluations of their work provided by the native Canadian residents of Fort McMurray interviewed by Littlejohn and Powell (1981). But these researchers also found that 85% of the currently employed sample members reported that they were "very satisfied" with their job (1981:90). Core-periphery comparisons are not provided, but it is apparent that there is very little variation in responses to this question. This high level of reported job satisfaction is similar to the results obtained in many surveys using global measures of job satisfaction. However, it must be assessed against Littlejohn and Powell's (1981:xv) own conclusion that:

> The major finding of the study was that the majority of the employed could not be termed successfully integrated because of unstable work histories and the fact that their jobs were unskilled and provided poor prospects for long-term employment.

I have concluded earlier that Indians and Metis have not been equal participants with non-natives in the Fort McMurray labour market. The high level of job satisfaction among those employed, despite the relatively poor quality of their jobs, may reflect low expectations. Like women in this community, native Canadians are probably conscious of the segmented nature of the local labour market. Having a job, rather than having a good job, may be their criterion for job satisfaction.

Correlates of Job Satisfaction

The moderate-size correlation (r = .436; R2 = .19) between the two "behavioural intentions" questions demonstrates that not all workers who would take the same job again would also recommend it to a friend. Other researchers (e.g. Kalleberg, 1977) have combined these and other global items into job satisfaction indices. The low amount of shared variance between these items in this sample, the different levels of agreement with them, and the possibility that they are actually interpreted in qualitatively different ways all suggest that they should be used as separate dependent variables.[107] We may also find different factors influencing responses to the two questions. For example, financial and other extrinsic rewards of work may be stronger predictors of the "take the same job again" item. For these reasons, the two "behavioural intentions" job satisfaction measures were used as separate dependent variables in a series of multiple regression analyses. The initial list of independent variables included:

1. measures of *individual demographic characteristics:* gender, age, years of education, a binary variable for marital status, length of residence in Fort McMurray;
2. *employment history* variables: total number of full-time jobs ever held, total number of times unemployed, number of jobs ever held in Fort McMurray, months employed full-time in the past year, length of time with present employer, length of time on present job, occupational status change with migration to Fort McMurray, inter-sectoral movement with migration;[108]
3. *characteristics of the present job:* occupational status, an index summing the number of fringe benefits received,[109]

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[107] Earlier I argued that the job description/evaluation items should be conceptually distinguished from job satisfaction measures. There are also good empirical reasons for not creating a composite "job satisfaction" index with the "behavioural intentions" and "job description" items. First, the highest correlation between any of the items in Table 27 and either of the "behavioural intentions" measures is only .32. The average of the 28 zero-order correlation coefficients is much smaller (.17). In addition, a binary variable for sector of employment is significantly negatively associated with a majority of the job description items, but not significantly associated with either of the "behavioural intentions" measures. Finally, for several of these dimensions of work, Syncrude employees describe their jobs less positively than do other oil company employees. But further analyses revealed Syncrude workers reporting a higher (although not significantly so) level of job satisfaction, as measured by the "behavioural intentions" measures.

[108] Migration-related occupational status change is the difference between the occupational status of the last job before migration and the present job. Inter-sectoral mobility receives a score of one if movement into the core accompanied or followed migration. A score of zero represents sectoral stability, while minus one represents downward sectoral mobility.

[109] Respondents' income in 1978 is not used in the following analyses. To make this

a binary variable for shift work, number of hours of overtime worked in the previous two weeks, a subjective measure asking if working overtime interfered with other activities, the three job description/evaluation indices along with the single items on fringe benefits, speed of work, repetitiousness of work, and chances to see the results of one's work, a binary variable for union/employee association membership, a question about frequency of participation in union activities;

4. measures of *work attitudes:* wouldn't mind being unemployed, take any job for twice the pay, expect financial improvement in the coming year; and
5. *sectoral identifiers:* binary variables for oil company employment, employment with Syncrude, government jobs, construction jobs, and a binary variable for location in the managerial/professional/technical class.

Step-wise multiple regression analyses were undertaken within three separate sub-samples (male oil company workers, female secondary sector employees, male secondary sector workers) for both of the dependent variables.[110] In each of these six analysis series, independent variables without significant net effects were systematically eliminated until a reduced-form equation with only significant predictors could be estimated. All of the independent variables with significant effects on a dependent variable (in any of the three reduced-form equations) were then included in one large equation estimated for each sub-sample. This strategy allows comparison of the relative effects of different variables within one sub-sample (comparing betas) as well as the effects of specific variables under different conditions (comparing slopes across sub-samples). The equations for the "take the job again" question are displayed in Table 34, while Table 35 contains the three equations for the "recommend the job" dependent variable.

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[109](cont'd)variable into a relevant predictor of job satisfaction in June of 1979, the sample would have to be restricted to only those who had held their present job for at least one and one-half years. Otherwise, some of the income reported would have been earned at a previous job, possibly in another community. In an analysis of this very restricted sample (N = 140), the personal income measure was not a significant net predictor of job satisfaction.

[110] The decision to estimate separate multiple regression equations for each of these groups was made after examining many regression analyses with the total sample and with sub-samples of core and periphery sector workers. Splitting the sample into the two sectors virtually doubled the amount of "explained variance" in these analyses. Further sub-division by gender again doubled this statistic for periphery sector workers. The limited number of women employed in the core sector make a separate multiple regression analysis impossible, so they are omitted from these analyses.

Table 34: Job satisfaction (take same job again?): multiple regression equations.

Independent variable	Core sector: male workers	Periphery sector: male workers	Periphery sector: female workers
Education (years)	.036#	-.073*	-.070
	(.032)	(.033)	(.041)
	.106	-.245	-.202
	-.064	-.251	-.141
Occupational status change with migration	-.014	-.007	.034*
	(.010)	(.009)	(.009)
	-.128	-.090	.412
	-.182	-.010	.361
Number of fringe benefits received	-.053	.004	.111*
	(.049)	(.039)	(.045)
	-.100	.011	.303
	.065	.086	.141
Good fringe benefits	.265*	.021	-.003
	(.072)	(.057)	(.047)
	.354	.048	-.007
	.418	.267	.095
Finances expected to improve	.581*	-.011	-.107
	(.186)	(.231)	(.205)
	.306	-.005	-.053
	.307	.054	.071
Take any job for twice the pay	-.018	-.069	-.007
	(.045)	(.044)	(.044)
	-.037	-.175	-.018
	-.050	-.219	-.014
Social relations at work index	.067	.184*	.256*
	(.094)	(.090)	(.082)
	.077	.236	.336
	.312	.360	.298
Job complexity index	.155	.067	-.024
	(.089)	(.074)	(.064)
	.174	.107	-.043
	.281	.146	.110
Intercept	-.894	2.988	2.945
Adjusted R^2	.266	.134	.236
N	98	86	83

In each cell, the first entry is the unstandardized regression coefficient (b), the second is the standard error of the coefficient, the third is the standardized regression coefficient (beta), and the last is the zero-order correlation coefficient.

* Coefficient is significantly larger than zero ($p < .05$).

The eight independent variables displayed in Table 34 account for a substantial amount of the variation in responses to the "take the same job again" question by male core sector workers (26.6%) and female periphery sector workers (23.6%). Only 13.4% of the variance is explained in the equation for male workers in the local periphery sector. For the male participants in the primary labour market, a positive evaluation of fringe benefits (beta = .354) and a belief that one's finances will improve (beta = .306) are significantly associated with greater job satisfaction. Neither of these variables have more than small and non-significant effects in the other two equations. In fact, the differences between slopes, for each of these two variables and comparing the male oil company coefficient with either of the other two equivalent coefficients, are statistically significant ($p < .05$). "Good fringe benefits" references an extrinsic characteristic of the job, while the financial optimism measure taps extrinsic, perhaps instrumental, orientations. There is some evidence here of the effects of the instrumental work attitudes held by core sector workers. These workers do not subscribe significantly more to such beliefs (Table 26). But for these individuals who hold "good" jobs in this resource town, there is a positive association between evaluations of these jobs and job satisfaction.[111]

The "social relations at work" index is significantly associated with job satisfaction for both male (b = .184) and female periphery sector workers (b = .256). Two further significant effects are noted for the responses by women employed in the secondary labour market. Women who receive more fringe benefits report more job satisfaction (beta = .303). Those whose occupational status improved with migration to Fort McMurray are more likely to state that they would take the same job again (beta = .412). In chapter six, I reported that such status improvement had been experienced by relatively few women in this community. This suggests that comparisons to other women who have not had similar opportunities leads to increased job satisfaction for those few women who have moved upward in status. For men employed in the secondary labour market, more education is associated with less satisfaction (beta = −.245). The explanation might be that relatively well-educated periphery sector male workers in this community evaluate their jobs with reference to those held by equivalently educated workers in other communities. Employment in Fort McMurray is then found to be deficient while less educated workers may conclude that they have done better than could have been expected. Alternatively, it may be that, in general, the "educated but alienated young worker" thesis has most relevance to work in secondary labour markets.

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[111] A binary variable distinguishing Syncrude from Suncor employees was also added to the first equation in Table 34 and found to have a significant net effect (beta = .197) which added another 3% to the explained variance. It may be that employment in the newer and larger plant which is operated by a firm with considerably more public exposure may have a certain amount of prestige value for local residents.

Earlier, I suggested that different independent variables might be associated with the two "behavioural intentions" measures, particularly that instrumental orientations might have more influence on responses to the "take the same job again" question than the "recommend the job" question. My argument was that even excessively instrumentally oriented workers might take other than monetary factors into consideration when considering a recommendation of their job to a friend. Comparing the independent variables included in Tables 34 and 35, we find only partial support for this prediction. Some variables which have significant net effects on one job satisfaction measure are not important in the other analysis, but there are also some similarities. For example, "good fringe benefits" has a significant positive net effect on the job recommendation measure (Table 35) as well as on the "take the job again" measure (Table 34) for oil company employees.

However, for this second "behavioural intentions" measure, the "social relations at work" index is an important predictor for male and female workers in both sectors. Men employed in the core sector do not appear to be considering the social relational aspects of work when assessing the personal question about taking the same job again (Table 34). Monetary considerations are more important. But if the question is about recommending the job to a friend (Table 35), more than only monetary concerns enter the equation. In fact, when recommending the job to a friend is the stimulus, evaluations of social relations at work are the strongest predictor in each of the three equations. Thus, social aspects of work are important in influencing the job satisfaction of Fort McMurray workers. In this, they differ little from Canadian workers in general. However, the extrinsic dimensions of work also appear relatively important, particularly the evaluations of fringe benefits. In this, these resource town workers may be somewhat unique. As I have argued earlier, they may be more instrumentally oriented than are Canadian workers in general.

Table 35: Job satisfaction (recommend job to a friend?): multiple regression equations.

Independent variable	Core sector: male workers	Periphery sector: male workers	Periphery sector: female workers
Number of full-time jobs in Fort McMurray	.091#	-.255*	-.070
	(.105)	(.076)	(.062)
	.086	-.301	-.121
	.181	-.270	-.079
Good fringe benefits	.117*	-.004	-.009
	(.054)	(.051)	(.040)
	.223	-.008	-.024
	.294	.243	.065
Take any job for twice the pay	.008	-.101*	.002
	(.034)	(.042)	(.042)
	.023	-.231	.006
	.014	-.277	-.104
Social relations at work index	.144*	.404*	.324*
	(.061)	(.087)	(.081)
	.239	.448	.429
	.317	.475	.412
Intercept	1.737	1.775	1.654
Adjusted R^2	.121	.324	.143
N	98	85	83

In each cell, the first entry is the unstandardized regression coefficient (b), the second is the standard error of the coefficient, the third is the standardized regression coefficient (beta), and the last is the zero-order correlation coefficient.

* Coefficient is significantly larger than zero ($p < .05$).

Among male workers in the local secondary labour market, those who have held more jobs in Fort McMurray are less likely to say that they would recommend this job (beta = -.301). Comparisons to other opportunities in the local labour market might lead to negative assessments of presently-held periphery sector jobs. In addition, secondary sector males more in agreement with the statement about taking any job for twice the pay are less likely to be satisfied with their current job (beta = -.231). In other words, greater instrumental orientations are associated with less job satisfaction in the local secondary labour market. Presumably, these individuals would compare their jobs to those in the local core sector, and find their own to be lacking. Again, I am not arguing that instrumental work attitudes vary across sectors. They do not (Table 26). Instead, I am suggesting that the *effects* of such attitudes differ under different labour market conditions. In the core sector, positive evaluations of extrinsically rewarding jobs lead to greater job satisfaction. In the periphery sector, where jobs are not as extrinsically rewarding, instrumental work attitudes lead to less job satisfaction.

These data have provided a test of the basic labour market segmentation job satisfaction hypothesis. There is no support for the prediction of increasing levels of job satisfaction when comparing workers in the local secondary labour market, in the subordinate primary labour market, and in the independent primary labour market. The expected finding of significantly greater job satisfaction among older workers also did not appear. The simplest explanation may lie in the attenuated age distribution of the Fort McMurray labour force. As the labour force ages, the positive association between age and satisfaction will probably appear. Matthiasson's 1969 survey data contained some evidence of decreasing job satisfaction with length of residence in the community. In the 1979 data, the zero-order correlation between length of residence and intentions to take the same job again was positive (r = .139), but the net effect was not statistically significant. While this is only weak evidence, the pattern is clearly opposite to that noted a decade earlier. I suggested that the relative isolation of the community might have been a factor influencing the negative association in the 1969 data. The improved access to the community a decade later may have had a small effect on the evaluations of their work by residents.

We might have expected that workers with histories of unstable employment would report greater job satisfaction, particularly if they were currently employed in the core oil sector. This hypothesis assumes that previous employment instability was a consequence of location in peripheral industrial sectors where lay-offs and short-term jobs were common. These data contain little support for such an hypothesis. The more specific test with the inter-sectoral mobility variable also fails to support an hypothesis that the chance to move into core sector employment leads to increased job satisfaction. Only for women in the periphery sector, do we find that migration-related occupational status change has a positive net effect on job satisfaction. But occupational status perse is an unimportant predictor variable as it has been found to be in other studies (Kalleberg and Griffin, 1978:386). In addition, the binary class measure does not have significant net effects in any of the sub-sample equations for either measure of job satisfaction.

Finally, it has been argued that the shiftwork and overtime work commonly required in resource towns leads to job dissatisfaction and family problems. In this sample of Fort McMurray workers, 32% reported doing shiftwork and about 50% had worked some overtime in the previous two weeks. The family problems issue has been examined elsewhere (Krahn et al., 1981) and little supportive evidence was found. Here we find that neither shiftwork, number of hours of overtime worked, nor opinions about overtime interfering with other activities are negatively associated with job satisfaction.

Class Consciousness in Fort McMurray

All respondents in the 1979 Fort McMurray survey were asked the open-ended question: "To what social class do you belong?" Almost one-half (46.8%) answered "middle class" and an additional 10.9% qualified this as either "upper middle" or "lower middle". A total of 16.9% responded that they were in the "working class", [112] 15% stated that "there is no such thing as social class", and 10.4% did not answer. Combining these self-reports into three general categories, we find 16.9% identifying themselves as lower/working class, 57.7% responding with some form of "middle class" answer, and 25.4% not responding or doubting the reality of the concept.

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[112] This includes 1.6% (7 individuals) who said "lower class". One respondent answered "upper class" and is, for the remainder of these analyses, included with the "middle/upper middle" category.

Comparison data are available from the 1980 Edmonton Area Study which included an identical question. In that survey of 428 adults, 15.9% gave a lower/working class answer, 64.7% chose a middle-class response, and only 19.4% answered "no such thing" or refused to answer. The two samples do not differ in the proportion identifying themselves as working class. But in the Fort McMurray sample there is a higher proportion not answering or questioning the concept, and a lower proportion with some form of middle class answer. The difference between the proportions not answering or sceptical is statistically significant ($p < .05$), allowing us to conclude that residents of this resource town are somewhat less likely than Edmonton residents to consider the concept of social class relevant to their lives. Comparisons to other Canadian studies which used open-ended questions for self-reports of class position (Goyder and Pineo, 1978) shows them fairly similar to the Edmonton study, with over 60% answering "middle class" and less than 20% failing to locate themselves within a particular social class. I concluded earlier that instrumental work attitudes may be more prevalent in this community than in other Canadian urban centres. We might add that scepticism about the existence of distinct social classes is also somewhat more prevalent.

Table 36 displays the cross-tabulations of the subjective class position measure (collapsed into three categories) by sectoral location, class position, and education. The analysis is restricted to labour force members only.[113] It is apparent that the social class self-reports more consistently mirror the objective class measure than the social ranking implied in the sectoral location measure. Among members of the managerial/professional/technical class, only 10.4% state that they are in the working class, 59.7% identify with the class in which I have located them, and 29.9% do neither. Among those objectively located in the "working class", 20.7% report themselves in this class, and only 23.9% do not answer or question the concept. But the proportion locating themself in the middle class varies less across the two objective categories, and the overall association is not statistically significant ($p > .05$). As for the core-periphery

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[113] It is apparent that omitting those not in the labour force from the analysis does not reduce the proportion not answering the question or saying that "there is no such thing as social class". Twenty-five percent of this reduced sample still give such an answer. When these analyses were rerun with 23 unemployed individuals omitted, the results were essentially the same. Similarly, when the social class self-report cutting points were altered ("lower middle" was included with "working class"), no changes in my conclusions were required.

Table 36: Labour force members' self-reports of class position by sectoral location, objective class position, and education.

Self-reports of class position	Sectoral location: oil company	Sectoral location: other workers	Objective class position: man./prof./tech. class	Objective class position: other workers
Lower/working	21 17.5%	37 18.0%	8 10.4%	52 20.7%
Middle#	69 57.5%	116 56.6%	46 59.7%	139 55.4%
There is no such thing/NR	30 25.0%	52 25.4%	23 29.9%	60 23.9%
TOTAL	120 100%	205 100%	77 100%	251 100%

	Education (years)*: ≤ 9	10-11	12	13-15	≥16
Lower/working	14 34.1%	15 23.1%	17 18.7%	12 16.4%	2 3.6%
Middle#	13 31.8%	35 53.8%	48 52.7%	47 64.4%	41 73.2%
There is no such thing/NR	14 34.1%	15 23.1%	26 28.6%	14 19.2%	13 23.2%
TOTAL	41 100%	65 100%	91 100%	73 100%	56 100%

[#] Includes lower middle and upper middle (and one individual who answered "upper class").

[*] Association is statistically significant (chi-square = 24.5; d.f. = 8; $p < .005$).

comparison, employees of the oil companies are almost equally as likely as periphery sector workers to state that they are middle class. A further separation of the core sector into an upper and lower tier did not alter this pattern. However, education was significantly associated with this dependent variable (Table 36). As education increases, the tendency to answer "lower" or "working class" falls systematically, and the probability of answering "middle class" increases dramatically. There may also be a reduced tendency to not answer or to question the concept, but the pattern is somewhat irregular. Thus, while objective class position covaries with subjective class assessments, a stronger and more consistent relationship exists between education and these self-reports. But sectoral location has no real effect on self-reports of class position.[114]

In summary, these resource town residents do not all identify with the same social class, an outcome predicted for these and other segmented labour markets by segmentation theorists. Almost 60% state that they are "middle class" and only 20% acknowledge a "working class" position. These workers also appear to be somewhat less willing than other Canadians to identify a social class in which they belong. As hypothesized, there is little evidence of widespread working class consciousness in this town. In addition, education rather than occupation, sector, or class most influences self-assessments of class position. Education was found earlier to be relatively unimportant in predicting occupational mobility with migration, income achievement, the distribution of fringe benefits, and job satisfaction. But for this particular subjective outcome, education becomes another criterion by which the local labour force, already segmented by sector, class, gender and race, is divided.

It remains possible that more community-wide, class-based consensus exists on specific local issues. Survey respondents were asked: "When there is a major development like the oil sands in Fort McMurray, some people benefit and some don't. In your opinion, who has benefitted most?" Interviewers were instructed to record up to three answers to this open-ended question. Most of the respondents gave at least one answer, about one-half gave two, and about one-quarter identified three beneficiaries of oil sands development. The many different answers were grouped into five very general categories. All of the volunteered responses, including multiple responses from some individuals, are displayed in Table 37 by sector of employment.

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[114] Further analyses demonstrated that occupational status has an identifiable but not statistically significant effect on these self-reports. Respondents with higher status were less likely to answer "working class" and more likely to identify themselves as "middle class". Individual 1978 income had almost no systematic effect on the self-reports of class position.

I hypothesized that those in the upper tier of the primary labour market would be more likely to align with capital, while secondary sector workers would be more likely to recognize their class interests in opposition to capital. I also suggested that workers in the lower tier of the primary labour market would be more instrumental than class conscious in their orientations to work. I did not find evidence of differences in levels of instrumentalism across sectors. Here I find only very weak support for the differing class attitudes by sector hypothesis. Primary sector upper tier workers are somewhat less likely to identify outside capitalist or corporate interests (including Syncrude, Suncor, and Canadian Bechtel) as prime beneficiaries (14.6%) than are primary sector lower tier workers (16.1%) and secondary sector workers (17.2%). Alternatively, primary sector upper tier workers are more likely to report that governments or politicians have benefitted the most (13.4%) than are industrial workers in the oil companies (11.6%) and secondary sector workers (9.1%). Assuming that a statement that outside corporate groups have benefitted the most reflects a "working class" outlook, these data are in line with the hypothesis, although the relationship certainly is very weak. [115] Table 37 also shows that industrial workers in the oil companies are slightly more likely to believe that "everyone has benefitted", and somewhat less likely to say that workers, migrants, and the unemployed have benefitted most. This could be interpreted to mean that these individuals are even less conscious than others of a class-divided society but, again, the evidence is very weak.

The largest proportion of answers to this question identified local business interests as the major beneficiaries of oil sands development. Over one-third of the responses, with little variation across labour markets, were of this type. Van Dyke and Loberg (1978:52) reported that many of their 1976 sample of local residents believed that a small group of influential businessmen controlled the town. Many of these 1979 residents still held this belief. It is noteworthy that local businesses were identified more

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[115] Significance tests are not appropriate for these data organized in this manner. Since some respondents identified two or three major beneficiaries, the responses are not independent.

Table 37: Perceptions of prime beneficiaries of oil sands development by labour market position: labour force members only.

Prime beneficiary	Core sector Man./prof./tech. workers	Core sector other workers	Periphery sector all workers
Outside capitalist and corporate interests	14.6%	16.1%	17.2%
Local businesses and entrepreneurs	35.4%	34.2%	35.0%
The state and politicians	13.4%	11.6%	9.1%
Workers, migrants, the unemployed, etc.	19.5%	16.2%	19.8%
Everyone, the town, the country, etc.	17.1%	21.9%	18.9%
TOTAL	100%	100%	100%
N*	(82)	(155)	(349)

* Respondents could identify up to three groups which had benefitted most from development, although most only gave one answer. These N's represent the total number of answers provided by workers in these labour force categories.

than twice as often as outside corporate interests. Residents of the town are in daily contact with local businesses and excessive profit-making is quickly recognized. The financial transactions of Syncrude, Suncor and Canadian Bechtel take place quietly and elsewhere, and as long as the incomes provided to local employees are high and donations to community projects are public, it is unlikely that these corporations will be seen by many as the major beneficiaries of this industrial development.

Sample members were also asked, with reference to the oil sands development, "Who has benefitted least?" If a belief that the local working class has benefitted least reflects the development of a class conscious labour force, these data do not allow such a conclusion. Only 6.3% of the 364 answers (up to three from each individual) provided by labour force members identified workers in general, while an additional 12.9% identified the poor, the unskilled, or those not employed by the oil companies as having benefitted least. Native Canadians were most often identified (25.5% of all responses), reflecting some consciousness among non-native residents of the segmentation by race in the local economy and social structure. Some survey respondents also recognized that original residents of the community (which would include native Canadians) had benefitted least, since 11.3% of the answers focused on this group.

In short, there is not a strong consensus across the working class of this community that Syncrude, Suncor, and other large outside corporations have benefitted the most from oil sands development. We can assume from this that a community wide class consciousness does not exist. In addition, there is little support for Lucas' (1971) argument that resource town workers tend to view the world in an "us against them out there" manner. Even if we combine the answers identifying the state and outside corporate groups, we still find a larger proportion identifying local businesses as the prime beneficiaries. Finally, there is also very weak support for the hypothesis that workers in different sectors will have systematically different class attitudes. An appropriate conclusion might be that the multiple ways in which the local labour force is segmented allows few common class-based beliefs to be generated in this contemporary single industry community. The most widely shared belief appears to be that local businesses are "making a killing".

In fact, Van Dyke and Loberg's (1978) observation led to the inclusion of the attitude statement "Private businessmen are making a killing." in the 1979 questionnaire. Sixty-four percent of the total sample and 63.1% of all labour force members agreed with this sentiment. Similary, 68.3% of the total sample, and 70.7% of all labour force members, agreed that "Overall political-economic control of Fort McMurray rests in the hands of a few prominent business people." Average responses (rather than percentages agreeing) to these and two other attitude statements are presented in Table 38, for all labour force members and for sub-groups within gender, sector, and class categories. There are no significant gender, sector, or class differences for the statement about a few prominent business people controlling the community. The sentiment is generally shared within the community. For the opinion that private businessmen are making a killing, we find no important gender or sector differences. There is a tendency for managers, professionals, and technicians, compared with those not in this class, to agree less with this statement, but the relationship is significant only for women not employed by the oil companies. Even among these workers, the level of agreement is fairly high (an average score above the mid-point on the one to seven scale), allowing the conclusion that this sentiment is also generally shared in Fort McMurray.

There is considerably less agreement with the statement that "Unions aren't powerful enough in Fort McMurray." Only 24.4% of the total sample agreed, and almost twice as many (45%) disagreed. The percentages for the reduced sample of labour force members are essentially the same (25.6% and 44.8%). Support for unions is often taken as evidence of at least a nascent class consciousness. The absence of wide-spread union support in this community reinforces my conclusion that class consciousness is very weak among these Fort McMurray workers.

Earlier I predicted that periphery sector workers would be more conscious of their class interests than would core sector workers. There is no support for this hypothesis, if we accept that this question about unions at least partially measures the concept. In fact, core sector (oil company) workers are more likely to agree that unions are too weak, although the difference is not statistically significant (Table 38). Within the oil companies we find a significant difference between average responses of men in the managerial/professional/technical class and lower-level male industrial workers. The

Table 38: Class-related attitudes by gender by sector by class: labour force members only.

	Average scores on class attitude statements*		
	1.	2.	3.
Women (125)	5.21	5.49	3.41
Oil company (16)	5.79	5.75	3.69
Man./prof./tech. (6)	6.20	6.00	3.33
Other (10)	5.56	5.80	3.90
Non-oil company (109)	5.13	5.45	3.37
Man./prof./tech. (21)	4.22	5.35	3.17
Other (88)	5.33	5.48	3.41
Men (194)	5.26	5.54	3.44
Oil company (103)	5.29	5.55	3.56
Man./prof./tech. (34)	4.91	5.48	2.82
Other (69)	5.49	5.58	3.95
Non-oil company (91)	5.23	5.52	3.31
Man./prof./tech. (12)	4.38	5.25	2.82
Other (79)	5.37	5.56	3.38
TOTAL (319)#	5.24	5.52	3.43

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*
1. Private businessmen are making a killing.
2. Overall political-economic control of Fort McMurray lies in the hands of a few prominent business people.
3. Unions aren't powerful enough in Fort McMurray.

Respondents answered with a strongly disagree (1) - (7) strongly agree scale, so higher average scores represent greater agreement with the statement. The class difference for male oil company employees on item three, and the class difference for female non-oil company employees on item one are statistically significant ($p < .05$).

# This is the maximum sample size obtained for item four. Sample sizes were somewhat smaller for the remaining three statements.

latter are more likely to agree that unions are not powerful enough. Recognizing that this average score (3.95) is far from a strong expression of union receptivity, this is still an interesting finding. These industrial workers are precisely those courted by Syncrude with high incomes, generous benefit packages, and "team concept" labour control strategies. We can do little more than speculate about the level of union receptivity in the absence of such labour relations policies. Perhaps, much stronger pro-union attitudes would be in evidence. But, while these workers remain only luke-warm about the idea of more union influence in Fort McMurray, in this "middle class" community they are more pro-union than are any other workers. This is, however, the only evidence of any pockets of class consciousness in the community, and it is weak evidence at that.

D. Summary and Discussion

A number of conclusions can be drawn from the data analyses reported in this chapter. First, as hypothesized, there is some evidence that instrumental work orientations may be more common among these resource town workers than among Canadian workers in general. This generalization is congruent with the observation in chapter six that many migrants were attracted to this community because of the possibility of substantial income increases. Respondents in the 1979 survey also appeared to be committed to the work ethic somewhat less than normal. However, this may be more appropriately attributed to their perceptions of available employment opportunities in the local labour market than to pre-determined work attitudes.

Labour market segmentation theories imply that instrumental work orientations are most likely to be created or encouraged in the surbordinate primary labour market, but examination of the 1979 survey data failed to support this hypothesis. There are no systematic across-sector differences in such work attitudes. I would not, however, take this to be evidence highly damaging to the proposition. Like the Luton workers studied by Goldthorpe and his colleagues (Goldthorpe et al., 1968, 1969), these Fort McMurray workers are a self-selected sample bringing with them to the community their more pronounced instrumental attitudes. Within a more typical sample of workers, the hypothesized across-sector differences might be more apparent.

The Fort McMurray workers interviewed in the 1979 survey, like other Canadian workers, evaluated the intrinsic rewards of their work more positively than the extrinsic rewards. However, an examination of across-sector differences in job evaluations/descriptions failed to support the very basic segmentation hypothesis of better jobs in the primary labour market. It was not that sector of employment was an unimportant predictor of job evaluations. Instead, it was the most important. But with the exception of extrinsic rewards of work such as fringe benefits, oil company workers were less positive in their job descriptions than were periphery sector workers.

It may be that the better core sector jobs described by labour market segmentation theorists are only found in a limited number of large firms (Edwards, 1979, uses IBM as his example), while work in the majority of core sector firms is much like work elsewhere, with the exception of higher incomes and fringe benefits. This explanation might account for the Edmonton findings, but would not really explain the Fort McMurray results since Syncrude, the larger of the two core firms, is a classic example of the type of firms described by Edwards (1979) and others. There are two other possible explanations for the Fort McMurray results. First, the segmentation prediction of better jobs (on both extrinsic and intrinsic dimensions) may simply not be supported, even in this classic case. Alternatively, the explanation may lie in the short time between the beginning of Syncrude's operations phase and the interviewing of these workers. It may take some time before workers become comfortable with and positive about innovative management techniques such as the "team concept". Both this 1979 survey and a 1980 in-house study (Schuler, 1980) show that many Syncrude employees were negative in their evaluations of supervisors, evaluation procedures, and other "social relations" aspects of their work.

The Canadian resource town literature contains a poorly-documented generalization that job satisfaction is high in single industry communities. However, job satisfaction was found to be lower than average among the 1969 Fort McMurray workers interviewed by Matthiasson. There is also some evidence that 1979 residents were somewhat less satisfied with their work than are Canadian workers in general. If asked whether they would take the same job again, 58% answered affirmatively. This is much like the Canadian norm. But only 45% said they would recommend their job to a friend, whereas national job satisfaction surveys show larger percentages saying they would do so. I explained that, given an intrinsically non-rewarding job, even instrumentally-oriented workers who would take the same job again (for the money) might hesitate about recommending it to a friend. Multiple regression results showed that while evaluations of extrinsic rewards of work affected responses to both satisfaction measures, evaluations of intrinsic rewards had stronger effects on the "recommend to a friend" question. In addition, these multiple regression analyses highlighted some of the differential effects of instrumental work attitudes on job satisfaction. Among workers with "better" core sector jobs, such work attitudes lead to expressions of greater job satisfaction. Among workers with "poorer" periphery sector jobs, such orientations to work have a negative effect on satisfaction.

These 1979 survey data do not support the very basic hypothesis of greater job satisfaction among core sector workers. Examination of Matthiasson's 1969 data also allowed us to deduce that core sector workers were not more satisfied. In addition, analysis of contemporary survey data from Edmonton failed to support this hypothesis. Again, this may mean that we would find the hypothesized higher levels of job satisfaction only within specific core sector firms where innovative management strategies and/or "quality of work life" programs have led to more positive evaluations of both the intrinsic and extrinsic aspects of work. In Fort McMurray in 1969, such management policies were probably non-existent. In Edmonton, perhaps very few of the core sector firms represented by surveyed workers actually operated in this manner. And, as argued with reference to job evaluations, Syncrude may have been examined too early in its development of such a labour relations climate. Alternatively, the job satisfaction hypothesis I have extracted from the labour market segmentation literature may simply be invalid. Job satisfaction variations within sectors may be more systematic and substantial than those between sectors. Further study of across-sector differences in job satisfaction is necessary for a final answer.

These survey data certainly support the central segmentation hypothesis about the effects of a divided labour market on the development of a wide-spread class consciousness. There is little evidence of an across-sector working class consciousness in Fort McMurray. A majority of these workers consider themselves to be middle class, and a larger than normal minority do not consider the concept of "social class" relevant in their lives. To the extent that individuals do locate themselves within the class structure, education is a better predictor of such class self-reports than is any other more objective characteristic such as sector of employment or occupation. My prediction of greater consciousness of working class interests among periphery sector workers is not supported, either in examinations of responses to this question or to others about class-based attitudes. Hence, the liklihood of within-sector class consciousness developing is also very low.

In response to a question about who has benefitted most from oil sands development, periphery sector workers were a little more likely to identify outside corporations than were workers in the local primary labour market. However, the most frequently noted prime beneficiaries were local businesses. They were identified more often than was the combination of outside corporations and governments. Thus, there is little evidence of the "us against them out there" world-view attributed to resource town workers by Lucas (1971). It is also difficult to avoid the conclusion that Fort McMurray workers in general do not view their interests in opposition to those of the multi-national corporations which dominate the local economy. Only a minority believe that unions are not powerful enough in this community. In short, these data portray a distinct absence of working class consciousness among local workers.

IX. Summary and Discussion

A. Summary of Findings

A wide range of subjects have been examined in this study of work and social stratification in Fort McMurray, Alberta. Information on long-term changes in the local industrial and occupational structures was obtained from a variety of secondary sources. This macro-analysis, essentially a consideration of the political economy of resource development in north-western Alberta, provided a contextual background for the more extensive examination of survey data collected from a random sample of 1979 community residents. The systematic analysis of these data focused on the characteristics of Fort McMurray's labour force members and of their jobs, the changes in occupational status accompanying migration, the nature and distribution of work rewards (income and benefits) and, finally, individuals' attitudinal responses to work in the community (job satisfaction and class consciousness).

The most basic causal model underlying the organization of the study proposes that industrial growth can create employment opportunities. The provision and possibly unequal distribution of these opportunities, in turn, can influence work-related and class attitudes of the individual participants in the new or expanded labour market. This is, of course, not a theory in any sense, and thus has little explanatory or predictive value. Two large research literatures were consequently examined to see whether they contained a theoretical framework with which to organize the study, and from which to extract hypotheses and explanations of findings.

The Canadian single industry community literature was found to contain a wealth of description and a few interesting hypotheses. But it clearly did not provide a theoretical perspective for the study. The labour market segmentation research literature appeared to be much more useful in this respect. From it I could extract a theoretical model which addressed work and stratification issues at both the structural and individual levels of analysis. The segmentation model also suggested a large number of testable hypotheses and, as my data analyses demonstrated, could account for many, although not all, of the findings.

Testing and extension of labour market segmentation theory was a central concern in this study. Equally important was my desire to provide an informative account of the experiences of work and of the nature of social stratification in this rapidly growing resource town. Thus, my "community study", focused as it was on these specific topics, addressed three general questions. Analyses of the survey data suggest a qualified affirmative response to the first question: the development of the oil sands has provided improved employment opportunities for migrants to Fort McMurray. Upward occupational mobility and increases in income accompanied migration for a substantial number of individuals. This answer is qualified, however, since the data allow comment only on the work experiences of "stayers" in the community. Many migrants obviously came and left again, and there is no way of determining whether they were more, less, or equally as successful as the random sample of community residents interviewed in 1979.

A second qualification to this answer is directly related to the second question: have these employment opportunities been equally distributed? Fort McMurray has been an avenue into higher status and better-paying jobs, but not for all migrants. Distinct patterns of social stratification were identified within this community. One of the most pronounced community cleavages was between those individuals working for the dominant oil companies and those employed elsewhere in the community. When considering incomes alone, construction workers were also an advantaged group. When examining the distribution of fringe benefits, employees of various levels of government were well-rewarded. But when examining both incomes and benefits, it is quite apparent that employment in the oil companies was the most rewarding work, in monetary terms, in this community. Thus, this resource town appears to contain well-defined dual labour markets, with the primary labour market situated within the two huge oil companies operating in the area.

Equally pronounced in this community was the pattern of gender-based stratification in the workplace. Men benefitted considerably more than did women. In fact, patterns of gender stratification appeared more pronounced in this resource town than in other Canadian urban centres. Women were found to be greatly under-represented in the dominant oil companies and, within both these firms and local secondary sector firms, women were paid much less and received fewer fringe benefits.

Women experienced very little upward occupational mobility as a consequence of migration, and they were less likely than men to describe their jobs positively. The data analyses clearly demonstrate that a model of labour market segmentation by industry alone cannot completely account for inequalities in work rewards in this community.

Examination of secondary sources allowed the additional conclusion that native Canadians have benefitted relatively little from the development of the oil sands. Although some Indian and Metis residents of the region have participated in the construction and operation of the Suncor and Syncrude mines and plants, unemployment and underemployment remain serious problems in nearby native communities, and among native Canadians living in Fort McMurray. Such patterns of stratification by race are found in many northern Canadian communities. They have often been explained with reference to the difficulties encountered by individuals leaving a traditional mode of production and entering a wage labour economy. However, the information gathered in this study demonstrates that the Indians and Metis of the region have been participating in the wage labour economy for several generations. As previously important resource industries became peripheral to the higher technology, capital-intensive oil industry, native Canadians have become marginal participants in the Fort McMurray labour markets.

The focus on labour force members' work attitudes led to the conclusion that migrants to this resource town were somewhat more instrumentally motivated than Canadian workers in general. While this generalization is based on the assumption that work values are brought to a new job and a new community, the third general question guiding the data analyses was: what are the subjective outcomes of employment in this community and are these attitudes and world-views influenced by local patterns of social stratification? There is some evidence that job satisfaction may be lower in this resource town than in other Canadian communities. Comparisons within the community revealed the unexpected finding that oil company workers evaluated their jobs less positively on all but the extrinsic rewards dimension. There were no differences between oil company workers and others in their reports of job satisfaction. Thus, the "better" jobs in the dominant oil industry do not appear to lead to more positive job evaluations or to expressions of greater job satisfaction.

On the other hand, there was little evidence of any wide-spread working class consciousness in this community. Most workers, like their counterparts in other Canadian communities, considered themselves to be members of the middle class, but a somewhat larger than normal proportion thought that "there is no such thing as social class". Only a small minority concluded that the oil companies have been the prime beneficiaries of oil sands development, and only a small minority believed that unions should be more powerful in the community. While there was confirmation of the general prediction that little class consciousness would be observed, there were few important differences in class attitudes across industrial, occupational, gender, or social class categories. Instead, education which had only limited effects on occupational status, income, and job satisfaction, was the best predictor of self-reports of class position.

B. Labour Market Segmentation in Fort McMurray

The labour market segmentation model did not originate in studies of work and social stratification in single industry communities. However, it appears rather useful as an explanatory model in this context. Fort McMurray's economic history, when viewed from this perspective, is a story of the development of a segmented labour market within a single industry town. In an earlier era, there was considerable competition among entrepreneurs who, with limited funds and simple technology, attempted to develop the oil sands. The last two decades have seen the emergence of an oligopolistic oil industry, with the local economy dominated by two huge firms using sophisticated and costly technology. Within these firms exists a primary labour market in which, as the segmentation model predicts, incomes are high, benefits are extensive, job security is assured, career possibilities exist, and innovative management techniques are employed. The remainder of the jobs available in Fort McMurray can be conceptualized as a secondary labour market.

A central proposition in segmentation theory is that only limited movement from secondary into primary employment is possible. But, in times of core sector expansion, such opportunities may increase. This study has documented how the rapid growth of the core sector oil industry in Fort McMurray has provided such an opportunity to migrants who arrived in the late 1970s. A substantial proportion left behind periphery sector jobs and, on arrival in this resource town, moved into better core sector oil industry jobs. In fact, a history of employment instability, and pre-migration periphery sector employment did not appear to limit such across-sector movement. The Fort McMurray primary labour market was relatively "open", at least during this stage of the town's development. But, again, the qualifications noted earlier must accompany this generalization. Few women were among these upwardly mobile migrants. For women, the structure of the larger economy's segmented labour market extended into Fort McMurray. Similarly, native Canadians have been much less able to benefit from an "open" primary labour market in this community.

Thus, the segmentation model is useful for interpreting the rapid changes we have seen in this community's industrial and occupational structures. It also helps explain the emergence of segmented labour markets, and can account for the distinct pattern of stratification by industrial sector found in this resource town. It offers an explanation for the greater upward mobility experienced by migrants who were fortunate enough to find employment with Syncrude or Suncor. In addition, the segmentation model's focus on structural barriers between labour markets helps identify the ways in which racial inequalities have been perpetuated in this particular community.

However, the original "problem" which led to the development of segmentation theories was the inability of a "human capital" model to account for persistent racial and gender inequalities in the workplace. I have argued in this study, as have others elsewhere, that a segmentation perspective – an analysis focusing on differences in labour market processes – can assist us in identifying structural barriers to equal occupational opportunity. But a model of segmentation by industry does not itself explain the origin of racial and gender inequalities. Other historically-based explanations are necessary.

In this particular study where very distinct dual labour markets can be identified within the oil company and the local peripheral industries, we still observe substantial cross-cutting cleavages by gender and race. In particular, the survey data demonstrate that, controlling on sector of employment, we continue to find very large female-male differences in incomes, benefits, and upward occupational mobility. In short, a labour market segmentation model based on an assumption of primary labour markets existing within core sector firms is inadequate as an explanation of gender inequality at work. It does not fully answer the question "Why?", and does not account for much of the gender-based inequality we observe. On the other hand, research influenced by a general labour market segmentation perspective can still usefully focus on the question of "how" female-male inequalities are perpetuated within firms and within communities.

One of the most important propositions of the segmentation thesis advanced by Edwards (1979), Gordon et al. (1982), and others is that the division of the working class has inhibited the development of wide-spread class consciousness. While being central to the segmentation model, this proposition had not really been systematically tested. This study has demonstrated the hypothesized absence of working class consciousness in this clearly segmented local economy. Part of the explanation which segmentation theorists would propose for such a finding involves higher job satisfaction among the well-rewarded workers in the primary labour market. Segmentation theory would also hypothesize more positive assessments of both intrinsic and extrinsic aspects of work in the core oil sector. However, variations in job evaluations and in reports of job satisfaction in this community do not correspond to the identified across-sector variations in work experiences and work rewards. None of these hypotheses were supported. The hypothesis that class attitudes might vary systematically across sectors was also proposed. Again, I found no evidence of this. The elaboration and testing of such hypotheses about across-sector differences in job satisfaction and class attitudes is a central contribution of this study to the labour market segmentation research literature.

An equally important contribution to this literature has been the presentation of these labour market segmentation findings against the backdrop created by my brief discussion of the evolution of dual economies within this resource town. Such a multi-focused study was possible for several reasons. Changes in industrial and occupational structures have been compressed into a shorter time period in this community, making them easier to observe. Furthermore, the single industry nature of the local economy eliminates the sectoral boundary-identification and the unit of analysis problems which have plagued other segmentation studies. In this community, the oil companies clearly form the primary labour market and there is no ambiguity about whether to study the industry, the firm, or the establishment. Fort McMurray, and probably other resource towns as well, are excellent field laboratories within which to study labour market segmentation.

Summing up my assessment of the segmentation model's utility in this study, it appears that it is more useful for explaining the emergence of segmented labour markets in this resource town than for explaining subjective responses to work in such a setting. This may be because the combination of wide-spread instrumental work attitudes, considerable occupational mobility accompanying migration, high incomes in various sectors, and the very recent introduction (in Syncrude) of an innovative labour relations policy makes Fort McMurray a "deviant case". Alternatively, the hypothesis of systematic differences across sectors in work attitudes, job satisfaction, and class values may simply not be supported. Further tests of these hypotheses in different communities are necessary for a more confident answer.

C. Further Relevance of Findings

The linking of a variety of work and stratification concerns within a single theoretical framework also becomes a contribution to the Canadian single industry community literature. Resource town studies have included few systematic examinations of the occcupational careers of migrants, of the distribution of work rewards across population sub-groups, of the organization of work within firms, and of the subjective outcomes of work. The studies that do exist have seldom been theoretically grounded. This study has focused on these topics in considerable detail, providing empirical support for some previously untested generalizations (e.g. the instrumentally motivated migrant thesis and the argument that gender stratification is more pronounced than usual in such communities) but not for others (e.g. job satisfaction is high in resource towns). The findings of the study are also of considerable relevance to the social impact assessment literature. As I noted in the second chapter, the two basic orientations in this research have been the emphasis on the creation of new jobs and the focus on social problems generated by rapid population growth. A wide-ranging study of the nature of employment opportunities and of local patterns of stratification provides an example of how the fairly limited scope of these social impact studies might be expanded. Changes in the organization of work and in the form of stratification systems are obviously also social impacts of resource development.

The findings of this study suggest that occupational mobility and status attainment research would benefit from further examination of labour market segmentation and the nature of regional economies. These are important structural factors which can influence and constrain individuals' mobility experiences. Also, traditional research in this field has only occasionally considered the link between migration and occupational mobility, and has largely ignored the issue of unemployment. Some of this study's modifications of traditional occupational mobility and status attainment questions point to areas for further research.

Finally, job satisfaction research could clearly benefit from more attention to the effects of industry and firm characteristics on individual workers' satisfaction. My basic hypothesis about different levels of satisfaction in different labour markets requires testing in other settings. These tests should include careful examinations of the effects on job satisfaction of "quality of work life" programs and other similar management initiatives which are most likely to be found in primary labour markets. It is assumed that such programs have their desired effects on labour turnover and productivity via individual workers' job satisfaction. This study has identified one workplace setting where this does not appear to be the case.

D. Suggestions for Future Resource Town Research

The most basic causal model underlying this study was that a changing industrial structure provided improved employment opportunities for (some) migrants to Fort McMurray which, in turn, had an effect on the attitudes of workers (job satisfaction and class consciousness). Some of the groups which have benefitted less were identified in this study. Further less structured interviews with members of such groups, particularly women, might identify more clearly the barriers which have kept them in the secondary labour market. Some of the studies introduced in earlier chapters contain discussions of the difficulties faced by native Canadians seeking work in Fort McMurray. But while the unequal labour market opportunities available to women have been clearly documented, the manner in which they are perpetuated could be further studied.

A further extension of the general model guiding this research might propose that life styles and work-related behaviours of workers would also be influenced by the experiences and rewards of work in this community. With respect to life styles, such research might follow Lucas (1971) who discussed at length the manner in which community and family life in single industry towns was conditioned by the nature of work. Van Dyke and Loberg (1978) comment on the status distinctions and the barriers to social interaction created by the division of Fort McMurray into oil company families and others. This study has documented much more fully this form of labour market segmentation. Further research might focus on the consequences for family life and community social organization.

We might also predict that work values brought to jobs in this community, local work experiences, work rewards (both monetary and subjective), and class values might all have an effect on, among other things, turnover rates and responses to union organizing attempts. Neither of these subjects could be examined with the cross-sectional 1979 survey data. But both of these behavioural outcomes are central issues in the resource town research literature, and both might be profitably further studied in Fort McMurray.

Labour Turnover in Fort McMurray

As in other single industry communities, turnover rates in Fort McMurray have dropped as construction booms ended and operations phases began. However, further systematic variations in turnover rates can be predicted. The labour market segmentation model argues that the high incomes, good benefit packages, and "progressive" management strategies characteristic of large core sector firms exist precisely because they can reduce turnover which is more costly in such work settings. Hence, a clear and testable hypothesis would be that turnover rates should be significantly lower in the core oil sector than in the rest of the local economy.

The Canadian single industry community literature also contains a debate about whether it is living conditions in general or working conditions within resource towns which lead to high levels of population turnover. These competing explanations, as well as the hypothesis of lower turnover rates in the core sector, could be tested if a follow-up study of the 1979 survey respondents was undertaken. The original 430 sample members would have to be located (either in Fort McMurray or elsewhere) and interviewed a second time. "Movers" could be asked why they moved, and "stayers" why they stayed.

Previous studies have only asked migrants about their reasons for moving to such towns, and about reasons why they *might* leave or stay (Matthiasson, 1971; Jackson and Pouskinsky, 1971). More important, all of the 1979 information could be used to predict whether or not an individual had left the community. Simple comparisons of turnover rates in different industries, if such data were available, would provide only a partial test of the sectoral differences hypothesis. But a follow-up study would allow careful comparison of the effects on individuals' behaviour (out-migration) of a variety of individual, community, and work-place characteristics.

A follow-up study would also provide useful information about the job satisfaction of Syncrude workers. If my 1979 finding of less positive job evaluations in this firm was due to the recent implementation of the "team concept" management system and the short time since the plant had begun operating, an increase in job satisfaction over time would be predicted. Perceptions of easily available jobs elsewhere might negatively influence job evaluations and reports of job satisfaction. Hence, we might also expect increased job satisfaction at this second time point as a consequence of workers recognizing that fewer good employment opportunities were now available, in Fort McMurray or elsewhere.[116]

Unions in Fort McMurray

Union receptivity was briefly considered in the 1979 survey which showed only a small minority of Fort McMurray residents favouring greater union activity in the community. Further survey and qualitative research (unstructured interviews with union leaders, organizers, and local workers) on this topic would also be enlightening, although some of the available secondary information allows us to speculate about the reasons for low union support.

Since Syncrude began operating in Fort McMurray, there have been three attempts to organize a union within the firm. The first attempt coincided with the beginning of the new plants' operations phase. The Oil, Chemical and Atomic Workers (OCAW) and the Suncor-based McMurray Independent Oil Workers (MIOW) were both organizing in the fall of 1977 and in early 1978. The International Union of Operating Engineers was also interested in the several thousand Syncrude employees (Saint John's Edmonton Report, 1978). The campaigns which included the lodging of an unfair labour practises claim against Syncrude by the OCAW (for ostensibly telling prospective employees that the firm would be operating without unions), were unsuccessful. Organizers thought they had signed up sixty percent of the workers but, because of high turnover in the plant, did not have a majority when the campaign ended.

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[116] A pre-test for such a follow-up study was undertaken by Dr. J.W. Gartrell and myself in the fall of 1982, but funding for the complete study could not be obtained.

The second unionizing drive began in September of 1978 when, again, the MIOW and the larger Energy and Chemical Workers Union (previously the OCAW) competed for Syncrude workers' votes. The MIOW campaign emphasized its local base and the failure of national and international unions to respond to local needs (Fort McMurray Express, 1980). ECWU was spearheading a six-union joint organizing drive (itself and five international building trades unions) and its newspaper advertisements and campaign pamphlets noted how union dues benefitted local members. They also emphasized the ability of a union to deal effectively with grievances, housing problems, health and safety campaigns, and work schedules. Particulary interesting was the low-key approach to promoting wage increases as a reason for joining unions. As one advertisement noted: "Why do I need a union when my wages already fall into the top 1/3rd? Wages simply aren't the only issue." (Fort McMurray Today, 1980). [117] The company responded with a reasoned letter to employees which noted that "Syncrude prefers to operate without a union." (Syncrude Canada Ltd., 1980). The letter went on to explain how the team approach allowed worker involvement in decision-making and eliminated labour-management confrontations, and that the firm was committed to remaining in the top one-third of the industry with its wages and benefits. The 1980 organizing campaign, like its predecessor, was unsuccessful.

A third attempt to organize Syncrude was made by the MIOW in the fall of 1981. Only 870 of the over 2000 employees of the firm had signed union cards by the end of the four-month campaign (Edmonton Journal, 1981a). Thus, within the Fort McMurray core industrial sector, MIOW continues to represent Suncor employees and Syncrude remains union-free. The general dual-economy typology proposes that core sector firms are highly unionized (e.g. Bluestone et al., 1973:29; Clairmont et al., 1983:251), yet in Fort McMurray we find a classic core sector firm which is non-unionized. Other recent studies (e.g. Kaufman et al., 1981:16) have also found that some of the most powerful North American core sector firms are not unionized. The explanation may be fairly simple. The core sector as it is typically defined contains many older, long-established firms (e.g. in the steel and automotive industries) as well as newer firms such as Syncrude. In the older firms, unions are frequently well-established and integrated into the organization of work. In newer firms, "bureaucratic control", "responsible autonomy", or "quality of worklife" labour relations techniques may counter unionization attempts, if an already unionized workforce does not exist.[111] This may have been the case with Syncrude. But there are several other possible explanations.

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[117] This approach appears to have been a deliberate policy. ECWU officials allowed me to examine the minutes of meetings held by the 1980 Union Committee to Organize Syncrude Employees. Included were discussions about organizing tactics which would not emphasize incomes, since these were already high in Syncrude.

The first is that high labour turnover makes union organizing in this community more difficult than usual. Lucas (1971:60) suggested that this was typical of single industry communities. But this explanation would be appropriate for only the first Syncrude campaign since, by 1979, the firm's turnover rates were reported to be quite low. The second explanation is that the competition between rival unions spoiled several prime opportunities to organize this large workforce. Workers may have wanted to be represented by a union, but the confusion about which was the better union and about how a joint certification would actually work meant that "workers who really want an effective union at Syncrude could loose out again - as they did last year." (Schuler, 1980). There may be something to this explanation but the results of the 1979 survey (which was undertaken between the first and second organizing campaigns) certainly did not reveal a highly pro-union work force in Syncrude or elsewhere in the community. If only one union had been active in each of the first two campaigns, I suspect the outcome would have been little different. The failure of the 1981 organizing drive, when only one union was active, supports this conclusion.

I have already suggested a third explanation. Syncrude's "team concept" managerial approach and its other efforts to integrate workers into the firm may have successfully influenced the union attitudes of these employees. Their positive assessments of the intrinsic rewards of their work, and their consequent job satisfaction may have led to a recognition that their interests and those of the firm were complementary. But, again, the 1979 survey data and Schuler's (1980) report on Syncrude's in-house job satisfaction survey show Syncrude employees to be relatively negative in evaluations of the intrinsic rewards and social relations aspects of their work. They also fail to report any higher levels of job satisfaction than do Suncor or non-oil company workers. Thus, it is difficult to attribute the low union receptivity among Syncrude employees to a causal chain whereby positive job evaluations and high job satisfaction lead to identification with the firm and rejection of unions.

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[111] Although Foulkes (1981) work on "large unionized employers" is not within the segmentation tradition, his discussion of strategies used by management to keep unions out of these firms resembles the arguments put forward by Edwards (1979), Friedman (1977), and Gordon et al. (1982).

The final explanation is that Syncrude, like other local employers, has attracted many instrumentally motivated workers. When offered high incomes and excellent benefit packages by a firm operating within a very segmented labour market, little class consciousness or recognition of the need for a union has developed. Obviously this would not apply to all Syncrude employees, since almost a majority have expressed a desire to join a union in each of the three organizing drives. However, the unidentified employee who, when interviewed by the CBC during the December, 1981 campaign said; "I make good money, Syncrude takes care of me, why do I need a union?" probably represents a large number of similarly-motivated workers.

This conclusion does not mean that, in other core sector firms in other communities, "bureaucratic control" or "responsible autonomy" management methods will not counter unionization threats. It simply means that in Fort McMurray in 1979 the innovative Syncrude management methods did not appear to be the major reason for low union receptivity among employees. These methods along with inter-union strife and labour turnover may have been contributory causes. But the most plausible explanation remains the provision of high incomes and many benefits to workers with little class consciousness and probably higher than normal instrumental orientations to work. [119]

Further research in the areas of labour relations and union attitudes in this community would allow us to assess this conclusion more carefully. More detailed study of the labour process within both core and periphery sector firms would also be useful, particularly a careful comparison of the two dominant firms, Suncor and Syncrude. Such research, more qualitative than quantitative in nature, would improve our understanding of the manner in which workers' attitudes and behaviours are influenced by management initiatives, and vice versa.

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[119] This explanation is in line with Himelfarb's (1977) general comment about labour relations in Canadian resource towns. He suggests that low unemployment and high incomes lead to a low level of union militancy. It also concurs with Neil's (1982:29) conclusion about the low level of class consciousness in Australian mining towns which also appear to attract many instrumentally motivated workers.

Labour Market Segmentation in Other Resource Towns

Additional research in other resource extraction communities would also be useful since we would expect that similar structural changes might have provided similar work opportunities, and might have had similar effects on workers' attitudes and world-views. Alternatively, the nature of the resource being developed and of the type of technology employed is substantially different in some other Canadian resource towns. Many of these communities are also considerably older, with labour forces recruited locally. Firms operating in the dominant industry are not all as innovative in labour relations practises as is Syncrude in Fort McMurray. Hence, some of the findings reported here may not be generalizable. Across-community research might identify some of the key factors which influence variations in the provision and nature of job opportunities, in their distribution across population sub-groups, and in their effects on job satisfaction and other attitudes. The identification of such factors would be a step towards the development of a community-level theory of resource development. I concluded in chapter two that such a theory does not currently exist.

I have found the labour market segmentation model to be a particularly useful predictive and explanatory tool in this study of work and stratification in Fort McMurray. Other resource town researchers, both in Canada and elsewhere, appear to agree. Scobie (1982), for example, suggests that the segmentation perspective would be appropriate for studying labour relations and class conflict in west coast Canadian single industry communities. Stymeist (1975) and Elias (1975) have described the participation of native Canadians in clearly defined secondary labour markets in northern Canadian communities. Marchak (1979) presents information on the different working conditions and work rewards found in the British Columbia timber and pulp industries. House (1981) writes about the poorly paid, seasonal work with few career opportunities which is available in the off-shore oil industry in Labrador. While local residents participate in this labour market, highly mobile, highly skilled, and highly paid oil company employees are working in a much more advantaged labour market within the same industry. Thus, other students of the political economy of resource development have also found the segmentation perspective to be useful in their research.[120] None, however, have used and tested this model as extensively as I have done in this study.

Further research which focused on the emergence of dual economies and segmented labour markets in other resource communities, on the openness of such primary labour markets to different categories of migrants, on the distribution of monetary and subjective rewards of work and, finally, on the resulting class attitudes, would be very informative. While I would expect across-community differences, I also suspect that Fort McMurray is not a completely exceptional case. I would predict that the segmentation of its labour market is much like that in many other contemporary Canadian resource towns, but comparative across-community research is necessary to confirm this.[121] Such research would extend our understanding of the political economy of resource development in Canada, and our knowledge of the nature of labour market segmentation in industrial society.

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[120] Discussions of the segmentation of labour markets in the oil industry in Norway (Stenstatvold, 1982) and in Scotland (Parsler and Shapiro, 1980; Mackay and Moir, 1980; Moore, 1981), and in the mining industry in the U.S.A. (Markusen, 1978) and in Australia (Neil, 1982) are also beginning to appear.

[121] One factor which might influence the nature of labour market segmentation is the degree of state involvment in resource development projects. In situations where little government regulation exists, the chances of disadvantaged groups (local workers, the unskilled, women) obtaining employment would be low. Some of the coal mining developments recently begun in the western U.S.A. would be good examples. Fort McMurray is somewhat different in that we have seen some affirmative action programs such as the efforts to train and hire native Canadians for construction jobs. However, additional state intervention in resource development projects could clearly reduce further the inequality in employment opportunities.

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